

DEFINITION OF THE MORING CASTLE
FOR A SPANISH (SPANISH) SPEAKING INSTRUCTOR
FOR ENGLISH STUDENTS

BY

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Abstract of Dissertation Presented to the Graduate Council
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REPRESENTATION OF THE SPANISH EFFECTS
FOR A SPANISH READING, GRADE 100000
FOR FLEMING, STUDENTS

By

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The main purpose of this study was to determine the word recognition, reading rate, and error rate scoring criteria for the Spanish Informal Reading Inventory (IRI). Another purpose was to test certain hypotheses concerning oral reading behavior in Spanish.

Pre-primers to eighth grade passages for the IRI were written. The difficulty level of the passages was based on readability estimates of four Spanish basal reading series. A score procedure, administered to 120 students, was used to validate the readability of the passages.

The IRI was administered to 120 students randomly selected from a population of 175 students on the basis of Gulf scores on the

OTIS/Teacher Each student's performance was recorded in terms of words per minute, error rate ($\%_{\text{error}}$, errors per 100 words), and error rate (errors per minute).

Criteria for use with the SRS were calculated for error rate, word reading rate, and error rate. These criteria were dependent for three reading clusters and corresponded to the level of the reading material and not the student's grade level.

The criteria for error rate were 18.8 for pre-primer through second grade, 8.8 for third through fifth grade, and 5.8 for sixth through eighth grade.

The criteria for word reading rate were 52.4 for pre-primer through second grade, 79.8 for third through fifth grade, and 88.8 for sixth through eighth grade.

The criteria for error rate were 3.3 for pre-primer through second grade, 2.7 for third through fifth grade, and 2.8 for sixth through eighth grade.

The results of the hypothesis testing showed: (1) a linear linear relationship between the error rates and the readability of the material; (2) passage difficulty rather than grade placement affected error production, except for passages at the seventh and eighth grade levels; (3) a significant negative relationship between reading rate and error rate at each passage level; (4) a significant positive relationship between reading rate and comprehension at all passage levels, except the sixth grade; (5) error rate was predictive of comprehension, and reading rate was predictive of comprehension level at the SRS.

CHAPTER 1 INTRODUCTION

Since bilingual education became a national issue in the United States in 1982, there has been a growing demand for the development of valid instruments to assess the needs of bilingual children in their native language. A particular focus of concern has been the development of instruments to measure the performance of bilingual children in reading in their first language.

There has also been a great need for studies on the nature of the reading process in the minority child's first language. There seems to be little knowledge on how bilingual children, or more particularly Spanish-English bilingual children, read in their mother tongue.

Statement of the Problem

The previous study investigated the determination of word recognition, reading rate, and error rate scoring criteria for an informal reading inventory in Spanish. To achieve this purpose the Spanish Informal Reading Inventory (SIRI) was developed and its reliability was established. It was also of interest to compare performance on the SIRI with previous research on reading performance in English.

This study investigated some various aspects of oral reading behavior in Spanish and their relationships to reliability and to grade level.

Justification of the Study

This study was selected to include the following: (1) 405 Hispanic students; (2) reading in Spanish; (3) Brevard County, Florida; (4) the 1985-86 academic year.

Any generalizations which can be made from the study will be limited to the population from which the sample was taken.

Justification

Of an estimated 5.4 million school-age children with limited proficiency in English, 1.7 million were from Spanish-speaking households (Ferrer, Jaramila, 1979). These children have traditionally been placed in English reading programs. Teachers, administrators, and parents have felt that the reading achievement of these children would be higher if they were immersed early in the English writing system. Despite efforts to modify English reading programs and to adapt them to native Spanish-speaking students, these children have continued to have a high degree of school failure (Ferrer, 1979).

In the northwest a survey found that an estimated 55% of Hispanic students at the fourth grade level were reading significantly below grade level (Dunbar, 1979). In New York City, a survey found that 55% of the Puerto Rican students in the eighth grade were reading below grade level. Their average score was ten years below the national norm (J.G. Foundation on Civil Rights, 1978). A study found that 40% of Mexican Americans who enter first grade never complete high school (J.G. Foundation on Civil Rights, 1978). Furthermore, the longer two-year minority students stay in school the further they fail behind

their classroom in academic achievement (U. S. Commission on Civil Rights, 1975). It is clear that traditional methods have proven inadequate for meeting the needs of language minority students.

The roots of the educational practice of minority language students can be found in the schools' policy toward the mother tongue.

For them, starting school means starting to learn a new language. The five or six years they have to prepare to overcome impediments to their own language were wasted when they find their teachers, their school books, or their fellow students using a different language. For them, school is a language barrier, established by the school itself, that blocks their learning. It discourages their efforts, and perhaps their choice of careers in the educational system (Garcia, 1972, p. 10).

Exploiting the inherent child's inclination to Spanish takes full advantage of the skills and competencies he brings with him to school. The fluency and ease with which he speaks his native language can facilitate the task of learning to read. His knowledge of basic Spanish vocabulary facilitates the development of meaningful sight words. His sensitivity to the sound system in Spanish enables him to discriminate fine differences in words. His control of most of the structures of his language helps him predict words as he reads. Furthermore, he has the benefit of learning to read a language with a close sound-symbol relationship, a benefit which offsets him the opportunity of mastering decoding earlier and faster (Garcia, 1975).

The many similarities between Spanish and English allow the transfer of skills from reading in Spanish to reading in English. Skills such as left to right progression, visual discrimination of characters and differences, knowledge of the alphabet, and some letter

words once learned in Spanish are easily transferable to English. Also, comprehension skills are fluently transferable from Spanish to English, once fluency has been obtained in English.

The research literature in support of the argument for textual literacy in the mother tongue. Studies by Redfem (1980, 1981), Sternbach-Gallego (1981), Swadlow-Hendy (1982), and Davis (1984) indicate that children have a better chance of learning to read a second language if they are initially taught to read in their home language. Fischer and Galletta (1978) found that the most viable predictor of success in reading English is success in reading Spanish before (1978) found, for a population of Puerto Rican students in a bilingual program, that reading in English was highly correlated with reading in Spanish.

There are other benefits to be derived from learning to read in the home language. Learning to read in Spanish will assist in the child's awareness and appreciation of the rich heritage of the Hispanic culture. Through the avenue of literacy in his own tongue he will have access to the folklore, poetry, drama, and other great literature of the Hispanic tradition. If the school places importance on reading in Spanish and introduces the child to great literature, the Hispanic child will come to regard his mother tongue as a valuable asset and not a symbol of disadvantage (Oliver and Ido, n.d.).

Language advantages are another benefit of an active Spanish language program. As dependence on foreign sources for many of our needs increases, the importance of Hispanic culture to our country grows. Her

economic life in Latin America strengthen each year. In many parts of our country such as Miami and New York, employment opportunities are greater for an individual who is not only bilingual, but bicultural.

There are many bilingual programs in this country which have realized the importance of teaching reading in the native tongue to Hispanic students and have implemented Spanish language programs (St. Lawrence, 1988, Ingels, 1985)... One of the greatest difficulties these programs have encountered is finding good reading materials that are culturally and theoretically relevant and meet the specific needs of particular groups of Hispanic students (Hance, 1981). Particularly lacking is an adequate means of assessing the reading performance of these children.

Most of the instruments that have been developed to meet the needs of limited English-proficient students are lacking in validity and reliability (Pfeiffer, Lewis, Reynolds, and Brown, 1980). Furthermore, most of the means of assessing reading ability are in the form of standardized tests... Standardized tests have been shown to be inadequate for giving the teacher important diagnostic information and for giving an accurate instructional plan (Hagy, 1984; Johns, 1975; Davis, 1984; Williams, 1981)... They have been found to overestimate the reading instructional levels of children by as much as a year or more (Frost, 1981). Their diagnostic value is limited because they do not sample enough of any one particular reading behavior or skill to give teachers information regarding specific weaknesses (Kunzmeister, 1981).

The Informal Reading Inventory (IRI) provides an excellent means for teachers to assess the specific needs of their students (Edels,

1975]. The ISI is a teacher-distributed level composed of a series of increasingly difficult grade passages which can be used to measure oral reading performance. It is administered individually to a student by having him read successive passages until he can no longer progress without difficulty. As the student reads, the teacher keeps a record of word recognition errors and asks related questions about word meanings.

When administered properly, the ISI provides accurate instructional placement so that the student is not placed in material that is so easy that it is not challenging or so difficult that it is frustrating (Gross, 1980). The teacher can derive in-depth diagnostic information which can aid in instructional planning and individualization. Furthermore, experience with administering ISI's has helped teachers gain insight into reading behavior so that they are more effectively cued at continuous diagnosis in the instructional setting. "For purposes of training teachers, the process becomes the product" (Howitt, 1975, p. 122).

The scoring criteria the teacher uses for the ISI is of great importance because the criteria determine the student's instructional placement. For example, a study found that two well-known criteria (Heits, 1966; Howitt, 1975) placed students at the same instructional level only 51% of the time (Hines, 1975). If the criteria are not accurate then the ISI could either overestimate or underestimate the proper reading level for instruction.

Although the ISI is presently used to map illiquid programs (Margolis and Seidman, 1979; Korman, 1980; Lombardi, 1979), as far

as can be determined, there has been no research into the development of criteria for an informed reading inventory in Spanish. If teachers want to develop an RI in Spanish based on the material's used in the classroom, then they must extrapolate from the research on criteria for the RI in English (Gallo, 1980; Fowler, 1982). Using English as the standard has great difficulties because of the syntactic, morphological and phonemic differences between English and Spanish. The reading task is different for the two languages because there is a closer sound-symbol relationship in Spanish than in English.

A further difficulty exists for the teacher in constructing an RI in Spanish. There is no comprehensive, research-based readability formula in Spanish that has been developed to estimate the difficulty of material in terms of grade level. The few formulas that do exist (Macaluso, 1980; Hurtado et al., 1984; Griffin et al., 1985) provide a means of ranking Spanish materials in terms of difficulty but do not provide grade level ratings that have been validated by research.

In constructing a systematic inventory the validity must be considered in terms of the meaningfulness of its measures. It is essential that the readability of each passage be commensurate with the grade level it is designed to measure (Fowler, 1982).

The ultimate purpose of an RI is to match the reading level of the student with the difficulty level of the material. However, the point to realize that when a teacher uses the criteria established for an RI in English for an RI in Spanish he cannot be certain that he is accurately placing his students at their instructional level.

Null Hypothesis

The main purpose of the study was to determine the scoring criteria for the SAT. Another purpose of the study was to test hypotheses concerning eighth-grade students' oral reading performance on the SAT.

The following three hypotheses addressed the question of whether there was a trend in the error rates across passage levels:

Hypothesis 1

There is no relationship between the number of errors students can make and SAT's oral fluency comprehension criterion, and the difficulty level of the passages.

Hypothesis 2

The trend of the error rates across passage levels is non-linear.

Hypothesis 3

There are no higher-order trend components in the error rates across passage levels.

The following fourth hypothesis sought to determine if the readability of the passages better than the grade of the student accounted for the errors produced on the SAT.

For the first and second grade passage levels, the hypotheses were:

Hypothesis 4

There is no significant difference in the means of the error rates of

second, third, and fourth graders on the SAT.

Hypothesis IV

There is no significant difference in the mean of the error ratios between the first and second grade passage levels on the SAT.

Hypothesis V

The difference between first and second grade passage levels is the same for second, third, and fourth graders.

For the third and fourth grade passage levels, the hypotheses

were

Hypothesis VI

There is no significant difference in the mean of the error ratios of third, fourth, and fifth graders on the SAT.

Hypothesis VII

There is no significant difference in the mean of the error ratios between the third and fourth grade passage levels on the SAT.

Hypothesis VIII

The difference between third and fourth grade passage levels is the same for third, fourth, and fifth graders.

for the fifth and sixth grade passage levels, the hypotheses were

Hypothesis II

There is no significant difference in the means of the error ratios of fifth and sixth graders on the SRI.

Hypothesis III

There is no significant difference in the means of the error ratios between the fifth and sixth grade passage levels on the SRI.

Hypothesis IV

The difference between the fifth and sixth grade passage levels on the SRI is the same for fifth and sixth graders.

For the seventh and eighth grade passage levels, the hypotheses were

Hypothesis V

There is no significant difference in the means of the error ratios of fifth and sixth graders on the SRI.

Hypothesis VI

There is no significant difference in the means of the error ratios between the seventh and eighth grade passage levels on the SRI.

Spencer's IV

The difference between the seventh and eighth grade passage levels on the SRI is the same for fifth and sixth graders.

Spencer's IV assessed the relationship of error rates and words per minute at each of the passage levels.

Spencer's VI

There is no relationship between reading rate and word recognition errors at each of the passage levels on the SRI.

Spencer's VI assessed the relationship of comprehension to words per minute at each of the passage levels.

Spencer's VII

There is no relationship between reading rate and comprehension at each of the passage levels on the SRI.

Spencer's VII sought to determine if word recognition, reading rate, and error rate were predictive of comprehension on the SRI.

Spencer's VIII

There is no relationship between word recognition at the instructional level and any of the following: error rates, words per minute, and scores per minute.

Spencer's VIII sought to determine if word recognition, reading rate, and error rate were predictive of comprehension on the SRI.

Appendix III

There is an relationship between the (approximate) level on the NCE and any of the following--intensive error rates, intensive word per minute, and intensive errors per minute

Definition of Terms

1. Infernal Reading Inventory: The Infernal Reading Inventory (IRI) is an infernal test, consisting of a series of increasingly difficult graded reading passages. These passages are usually considered from infernal-level materials. Each passage on the IRI contains comprehension questions designed to test a student's understanding of what he has read. The IRI is administered individually to a student by testing the next successive passages until he can no longer progress without difficulty. As the student reads easily a record of his word recognition errors is kept for each passage. As IR yields two scores for each passage: a word recognition score and a comprehension score. Grades of reading difficulty can also be recorded.
2. Reading Levels: The following reading levels can be identified by an infernal reading inventory:

Independent Level: This is the highest level at which an individual can read satisfactorily both orally and silently without assistance. It is the level at which free, supplementary, independent, or extensive reading can be done successfully.

Instructional Level: This is the level at which the individual is challenged yet not frustrated by the difficulty of the material. It is the level at which the individual can expect to make the maximum amount of progress in his reading development under proper instruction.

Emergent Level: This is the level at which the difficulty of the material causes the reader discomfort and/or anxiety. At this level the individual cannot expect to make satisfactory progress in his reading development.

Guessing Level: This is the highest level at which the individual can comprehend material which he must to read.

- 3- **Word Recognition Error:** A word recognition error is a deviation from the printed material that a reader makes.

The following word recognition errors, based on Beall's (1981) classification system, were counted as incorrect errors in this study:

- e. **Deletions**: Each whole word, part of a word, or series of adjacent whole words present in the text but omitted by the student
- f. **Insertions**: Each whole word, part of a word, or series of words not present in the text but inserted by the student
- g. **Substitutions**: Each real word or words that the student substitutes for a word in the text. An example of a substitution error is saying "house" for "horse."
- h. **Misspellings**: Any possible word, stem, or part of a word that the student substitutes for a word in the text. This includes phonetic distortions. For example, if the student pronounced "map" as "mop." If a word is pronounced differently because the student has a different starting point for the syllable(s), it is not considered a misspelling error.
- i. **Transpositions**: Each word read by the student in a different order from the order in which it appears in the text.
- j. **Unread Words**: Each whole word which the student is asked to pronounce and is pronounced for him.

4. Fluency: A derivation from the printed text that a reader takes.
5. Word Recognition Score: A student's word recognition score is the percentage of words pronounced correctly when he reads a passage orally.
6. Letter Rate: The letter rate is another way of reporting the word recognition score. It is the number of letters per 100 words in a passage.
7. Word Rate: Word rate is the rate at which a student makes words while reading a particular selection. It is computed by counting the number of word recognition errors committed in a passage and dividing this number by the total number of minutes taken to read the passage.
8. Reading Rate: Reading rate is the rate at which a person reads a particular selection. It is computed by counting the total number of words in the passage and dividing this by the number of minutes taken to read the passage.
9. Comprehension Score: The comprehension score is the percentage of correct answers given to previously prepared questions found in the passage. Comprehension questions test a student's recall of facts, knowledge of vocabulary, and ability to make inferences from a passage.

10. Reading Passage: A reading passage is a piece of written, connected discourse. For the purpose of this study, reading passages containing from 100 to 300 words were written.

11. Readability: Buckwalter (1969) has defined readability as follows.

Readability refers to the difficulty of a reading passage determined by linguistic qualities of the passage itself. It is computed by means of a formula which takes into account sentence length and a measure of the frequency with which the vocabulary in a passage occurs in the language. It is reported in terms of a grade level equivalent, a figure which relates the features observed in the passage to scores taken from samples of instructional materials in use at various grade levels. [p. 4]

12. Random Deletion of Clauses Procedure: The random mechanical clause procedure is a procedure by which every n^{th} word is deleted from a passage of about 250 words in length. The first and last sentences are left intact. To be randomly obtained where in the second sentence of the passage the deletions are to begin. When the procedure is used to determine reading levels, only those completed blanks which are identical to the original passage are counted as correct. A percentage score is computed which reflects the percentage of blanks accurately completed.

The clause procedure can be used for many different purposes including determining reading levels and measuring the readability of a passage.

13. Fluency. A person of Central or South American or other Spanish culture or origin regardless of age.
14. Bilingual. An individual with at least minimal competence in two languages.

Assumptions

1. The instruments used in this investigation actually measure the features they are designed to measure and are pertinent to this study.
2. The information gathered in the study is representative of the population sampled.
3. The criteria for comprehension in Spanish is the same or similar to the criteria for comprehension in English. The criteria of 100 for readability levels of grade one and two, 200 for difficulty levels three, four, and five, and 300 for readability levels six or higher, which have been extrapolated from cloze score data (Pearl, 1977) are used in this study. It is assumed that these criteria are the same or similar in Spanish.
4. It is assumed that there is a strong positive relationship between word recognition and comprehension in Spanish just as there is in English (Pearl, 1976, Page and Gethers, 1976).
5. It is assumed that only errors of omissions, exclusions, mispronunciations, substitutions, unknown words, and

transposition should be included in determining the word recognition score ratio on a Spanish Informal reading inventory, since this is what is suggested for an IRD in English (Goodale, 1979; Invernizzi, 1981).

6. The categories of independent, instructional, and frustration levels ratios for Spanish reading and map ratios for this particular order.
7. The following types of questions are the best for determining if a student has understood what he has read in a passage: (1) questions that test a student's recall of facts in a passage, (2) questions that test a student's knowledge of vocabulary that appears in the passage, (3) questions that test a student's ability to draw inferences from what he has read in a passage.
8. There exists in Spanish, as there does in English, a clustering of "reading behavior which is a function of the difficulty of the material and not the age-grade factor of the reader" (Invernizzi, 1981, p. 106). These reading clusters are as follows: pre-primer to second grade, third to fifth grade, and sixth grade plus.
9. The word frequency upon which the Spanish Certificate Development Center's reading ability formula (Hansen et al., 1974) has been based is an adequate representation of word frequency of present-day Spanish as spoken by Hispanic students in public schools in Dade County, Florida.

Limitations

1. Freedl's (1979) comprehension criteria for instructional level had to be used in the data collection. Freedl's criteria are intended for use with an ILE in English. However, his criteria had to be used for the ILE since no research-based comprehension criteria exist for an ILE in Spanish.
2. The estimation of the readability of the ILE passages was limited by the fact that no research-based readability formulae for Spanish materials exist. The bilingual students has been developed that gives grade level equivalents.
3. No measure of reliability or validity was obtained for the class tests.
4. No measure of reliability was obtained for the ILE.
5. Concurrent validity was not obtained for the ILE.

CHAPTER 3 REVIEW OF THE LITERATURE

Chapter III reviews research and literature in eight areas that are related to the tests under investigation: (a) historical background of the BEI, (b) criteria for the BEI, (c) reliability of the BEI, (d) validity of the BEI, (e) use of oral reading, (f) reading rate and comprehension, (g) oral reading behavior in Spanish, and (h) readability in Spanish.

Historical Background of the National Reading Assessment

The importance of informal testing has long been recognized. As early as 1928, K-5 Day pointed out that a continuous and effective testing program depended on both informal and standardized tests.

In 1933, Harry Brown (1933) published a book in which he recommended that teachers ask within the first week of school to determine how well their pupils read orally and silently. For oral reading he suggested that teachers have their students read three paragraphs, one very easy, one easy, and one moderately difficult. He advised that a record be kept of the time taken to read each passage and the number and kinds of errors made while reading orally. For silent reading, Brown, quoted in Bartlett's (1968a) review from his 1933 book, the rate and comprehension, "teacher's book" test is of interest because it is one of the

Thus, publication of *Handbook of Reading* opened the way to judge a student's reading performance.

In 1929, Edward Thorndike addressed the issue of the readability of materials used provided to the vocabulary test as the main source of difficulty students encounter in reading. He suggested that students read only one sentence word to 300 when reading independently. His suggestion could be converted to criteria for determining the adequacy of a student's reading performance.

In 1936, Arthur Bates published *The Development of Reading*. In this book, Bates said reading tests should include word recognition, sentence reading, clause paragraph reading, and reading techniques of reading context, and techniques of writing and recognition and pronunciation of isolated words. He also said reading materials should be of the right difficulty but he did not provide any criteria for determining this.

In 1936, Edward Bates published *The Acquisition and Development of Reading Difficulties* in which he outlined 16 great speech behavioral symptoms that could be observed while a student read. He stated that an examiner could observe the following while a child read orally: use of subject class, difficulties with word analysis, repetition, repetition, selection, and substitutions.

No specific criteria for judging reading performance is mentioned in Bates' book. However, it is known that at that time NACBE had categorized reading level materials and had set up lists of reading symptoms for teachers to observe (Bates, 1936).

In 1938, William C. Young published an abstract of his dissertation. In his study he found a positive relationship between reading

comprehension and hearing comprehension. From this study came a better understanding of listening comprehension which gives an excellent an extension of a child's reading capacity.

In an article published in 1937, Barrett suggested having a student read orally from a book to determine the difficulty. He stated that children have difficulty in mastering "instructional materials" consisting more than one difficult word in 85, and that independent reading would require even easier materials.

In 1938, Barrett stated the following:

Informal tests based upon the reading materials used in the classroom and classes of reading help to provide the best basis for planning effective instruction. (p. 100)

In a publication that appeared in 1944, Barrett wrote again about the "subjective reading inventory" which was administered informally by an experienced graduate student who was a member of his reading clinic staff. By 1944, the IRI was a valuable diagnostic tool that was used by Donald Betts and his staff in the reading clinic at Pennsylvania State College (Betts, 1944).

From this time on many reading specialists contributed to the gradual development of the IRI. It took many revisions, changes and trials in the classroom before it developed into the present format. Many aspects of the IRI were questioned and changes were attempted experimentally. Of special interest in the present study is the identification of criteria for the different reading levels.

Criteria for the IRI (1944) Reading Inventory

Betts (1944) developed the hypothesis that each person has at least five different reading levels -- a level at which he can read

independently, a level at which he can receive reading instruction, a level above which all reading materials are frustrating, and a level at which material being read could be understood.

In his book, Psychology of Reading Instruction, Flesch (1981) provided a detailed description of [internal] reading subthreshold and criteria for the different levels of reading difficulty. For the basal level (Independent level) he suggested a word recognition criterion of 800 and a comprehension criterion of 70. For the Instructional level he suggested a word recognition criterion of 800 and a comprehension criterion of 70. He recommended a word recognition criterion of 800 and a comprehension criterion of less than 800 for the Frustration level.

Flesch based his criteria on a study by Kilgallon (1961), a doctoral student working under his direction. Kilgallon's study has assumed a significant position in the literature because it was the first study to assign specific criteria to the various reading levels. Unfortunately, the way Kilgallon administered these criteria is not perfectly clear. As a result, there has been much confusion and misinterpretation.

Initially, Kilgallon tentatively established the criteria for Instructional level as 800 or better for comprehension and 80-890 for word recognition, or one error in every four-hundred reading words. Despite the fact that he established these criteria in his hypotheses, Kilgallon shifted to a 700 level for word recognition and a 700 level for comprehension in his conclusions. This shift in criteria was based on data collected from forty-one fourth grade students.

Neenan (1970) recalculated Kilgallon's percentages and found that they supported Kilgallon's hypotheses but not his conclusions. Neenan further pointed out that:

of the 30 cases which met an 'Instructional level' (one that no reasonable individual level) also having comprehension scores at 70 percent or higher, the mean word recognition percent of Ellington's subjects was 75.8 percent, or correspondingly one error in every sixteen reading words. This percentage figure does not, however, take into account that misreadings were counted as separate errors, and this type of error occurred the most frequently (p. 100-102).

In addition to the fact that the Instructional criteria were based on conditions that were inconsistent with the data, another important factor has led to misinterpretation. In Ellington's study, word recognition scores were recorded on oral reading of a passage that was preceded by silent reading. Thus, the 500 word recognition criteria for Instructional level was established on silent reading before the oral reading of a given passage. Today, many of those who use Ellington's criteria of 500 for word recognition do not take into account the important factor of silent reading preceding oral reading. The majority of 301 is an educational reality at this. Displaying Ellington's criteria when these conditions could lead to quite different results as research has shown (Finkelstein, 1971; Smalley & Ellish, 1970). Furthermore, as Dulcich (1970) has pointed out, Ellington's criteria have not been experimentally validated against students' performance over time. Ellington made no attempt to verify that the Instructional level he designated was indeed the level at which students would gain the most Instructional benefit. This question was approached ten years later by J. Lee's Center (1981).

Center hypothesized a direct relationship between percentage of word recognition errors and reading. He tested his hypothesis by collecting data on 1000 children in grades two through six. The data were collected on the students' word recognition scores, comprehension scores, and systems of difficulty from only one passage per child.

Casper (1984) pre-tested his population with standardized tests and, after a six-month period, post-tested them to determine gains in reading achievement. Having collected the data, he divided his population into two clusters: second and third graders were assigned to the primary level and fourth through sixth graders were assigned to the intermediate level. He then arbitrarily grouped subjects at each level according to word recognition scores. His assumption was that differences between gains made by different groups would be attributable to differences in difficulty of instructional materials. Casper identified the group making the most progress in reading achievement as those with 0 to 2 word recognition errors per 100 reading words. These students were considered to be in appropriate materials. The group at primary level having seven or more errors per 100 reading words, and the group at intermediate level with eleven or more errors per 100 reading words, were considered to be in inappropriate materials. As a result, the criteria for acceptable comprehension were set at 70% for primary level and 60% for intermediate level.

Casper concluded that at primary and intermediate levels, gains in reading tend to decrease as the difficulty level of material increases.

Casper's study is problematic in that it was the first experimental investigation aimed at establishing criteria for the 100. His study is also the first to present evidence that a single set of criteria is not appropriate for all grade levels. However, despite his more scientific approach, his study has been attacked by Hewitt (1987) for methodological weaknesses. According to Hewitt, the only certain conclusion that can be drawn from Casper's data is that students in

frustration level material do not make the same amount of growth in reading, as measured by a standardized test, as students in non-frustration level material).

Super's criteria seem very stringent and, as Benkeff (1982) has pointed out, the levels of difficulty that Super has designated at both primary and intermediate levels are a result of the experimental design and do not represent the range of difficulty in which students will engage when in reading.

Benkeff (1982), in a study using third graders, attempted to determine reading level placement. He additionally modified the original Wells (1940) intermediate level criteria to permit a broader range in acceptance with recognition errors. Instructional level was set at 800 to 875, with a corresponding comprehension score of 700 to 750. Benkeff found that his modified criteria, with wider score ranges, closely approximated the results rendered by the original criteria. Benkeff stated that his modified criteria were not superior to the original standards proposed by Wells.

In a doctoral dissertation study conducted by Schwaner (1984), one of the secondary findings was that third graders rarely read material at their non grade level with 80% accuracy. This was true even for material one grade level below their actual grade placement, including the silent readers.

Rowell (1979) reported on calculations of Schwaner's data which revealed that the 200 randomly sampled subjects made approximately 7 miscue errors per 120 reading words. Rowell pointed out that this ratio closely approximated the actual error figures in Kringsrud's study.

It is noteworthy that Cooper (1982), Gattuso (1982), and Schumers (1986) administered the first stages of the Instructional Inventory at sight-reading prior exposure to the material. This is different from the approach used by Bada (1988) and Wittigstein (1990) who had students read the material silently before reading it orally. Whether or not this causes a difference in the results remains to be proven. The inclusion is disappointing. Word recognition scores remained constant upon reading in research conducted by Bada (1987), Chen (1989) and Bryant (1982). A reduction of word recognition scores was found in studies by Bada (1982), Binkley (1971), Christensen (1979) and Inoues and Wright (1985). In Binkley's (1971) investigation, word recognition scores remained constant at instructional level for at-sight and rereading conditions. However, there was a reduction in word perception scores at the frustration level.

Aswiti and Bryant (1991) have summarized the different criteria for instructional level that different reading experts have proposed. A close examination of Table 3-1 reveals that other factors besides word recognition and comprehension percentages, such as the counting of exceptions and the testing format vary among the authors. These other factors account for some of the variance in the criteria.

In 1988, William Fowler (1988) reviewed a paper entitled "Supporting the Criteria for Determining Individual Instruction" in the *Thirtieth Annual International Reading Association Conference*. Fowler's thesis was that Wittigstein's criteria are statistically high and not supported by valid research data.

In his paper, Fowler endeavored to support his hypothesis that the word recognition criterion for instructional level was lower than

the 500 level proposed by Smith (1964) and Kilgallon (1944). Koverl presented findings of a study conducted in 1971 'average difficulty, average accuracy (by standardized measure) within these parameters' (1972, p. 100) to grades one through six. Each student in the study was administered an IR and data were collected on both word recognition and comprehension.

The procedures that Koverl used for analyzing the data were as follows:

Each protocol was first examined to locate the highest reading level with a comprehension score above the 75 percent criterion, but with higher than the minimum cutoff score. This level determined the point of entry into the word-recognition score column. The scores in the word-recognition column up to and at that level were summed to determine the initial percent of word-recognition accuracy within the limits set by the comprehension score. (1972, p. 100)

For each subject, Koverl recorded the lowest percent word-recognition score as the beginning's possible tolerance word-recognition score. The mean of the tolerance word-recognition scores was computed for each grade level and for various combinations of grade levels.

In a later article, Koverl defined what he meant by tolerance word-recognition score as 'the level of word difficulty or deviation from the expected response that is not detrimental to total reading performance' (1971, p. 120). Koverl discussed the findings for his study as follows:

The data suggest that the mean scores of grades one and two tend to cluster together percentage-wise, and the mean percentages of grades three, four, five and six form a relatively stable percentage also. The data clearly indicate that pupils in grades one and two could tolerate up the average as 35 percent word-recognition score and still maintain adequate reading comprehension. To say I found this surprising is an understatement. The finding that pupils in grades three through six could tolerate

on the average a 92 to 95 percent word recognition score while 100 to 100% 70 percent comprehension is consistent with the data of Dickinson and Rummeny. This finding was expected (1979, p. 104).

Goodl (1981) found that the range of performance values in his data tended to cluster into three readability levels. There was a 'marked break in the pattern of scores between readability levels two and three and a less marked break between levels five and six' (Goodl, 1981, p. 10). Goodl noted that these readability clusters appeared to coincide with reading growth periods that are characterized by certain behavioral patterns (Goodl, 1981). At the pre- to 1^{st} level, strategies for decoding develop slowly. As the student becomes more proficient, when through reading difficulty or the increasing abstract quality of the writing, the reader begins to profit based on his knowledge of the system of the language. At the 2^{nd} to 3^{rd} cluster level, automaticity occurs, and the reader demonstrates more instantaneous processing in decoding the written language. It is at this point that the structure of the language and the mode of meaning become more demanding. At the third cluster (4-), the decoding strategies are relaxed and the reader is now at a level of performance at which he can begin to think as he reads.

Goodl (1981) grouped his data on sentence word recognition scores into three reading clusters and used the readings as criteria that teachers could readily use in administering an SD. Table 3-4 presents his criteria for the three reading clusters at the independent, instructional, and frustration levels. The criteria are presented in terms of errors per reading word.

Table 3-6. Powell's 1988 scoring criteria for the Informed Reading Inventory

Criteria	Independent	Interdependent	Profoundly ill
	Percentage		
	N = 2		
Word Recognition	1/99 - 1/50	1/49 - 1/6	1/7 and below
Comprehension	100% - 80%	80% - 70%	60% or less
	Percentage		
	N = 3		
Word Recognition	1/99 - 1/50	1/50 - 1/13	1/12 and below
Comprehension	100% - 80%	80% - 70%	60% or less
	Percentage		
	N = 4		
Word Recognition	1/99 - 1/30	1/30 - 1/10	1/17 and below
Comprehension	100% - 80%	80% - 70%	60% or less

Source: Powell, 1987, p. 184

After concluding that the instructional level appeared to be related to the age-grade of the student and the readability of the material, Hewitt and Burkhead (1971) sought consistent writing for this age-group by testing for established practices in the field of reading evaluation. They chose five well-known standardized oral reading tests and computed a word recognition error ratio for each passage. Table 6-3 presents their findings.

A comparison of the average ratios across passage levels of increasing difficulty indicates that average ratios increase as the difficulty of the passages increases and the age or grade of the sample increases. They discovered a strong resemblance among the error ratios of the criteria used by Hewitt (1970), Loucks (1974a), Garrett (1968), and Wilson (1964). Noteworthy deviations in error ratios may be attributable to differences in the formats of the tests. Factors such as length of passage and inclusion of time in the calculation of the error may have influenced the differences in the word recognition ratios. It is important to note that the criteria, having been standardized by students' actual performance, rarely reach the 6.08 ratio suggested by Loucks (1964) for instructional level. These data support the view that there is a differential effect of word recognition error ratios across reading levels.

Hewitt (1970) pointed out that there are three important factors to keep in mind in interpreting his data. First, the figures presented for the various criteria are averaged; therefore, there were subjects in his study who read below the designated first and subjects who read above this point and with subnormal PIR or better comprehension. Secondly, the criteria apply to the readability of the material and not

Table 3-2 Word recognition error rates (errors according to Spinks, Carroll, Evans, Gray, Bates and Mackinnon, and Frost)

Message Length	Griffiths					
	Spinks	Carroll	Evans	Gray	Bates & Mackinnon	Frost
0	390	320	400	390		
1 ¹	300		400	300		307
2 ¹	130	370	147	401		
3 ²	143	371			300	120
4 ²	100		120	401		
5 ²	407	403		300	401	300
6	207	407	403	300	300	407
7	300	400	407	300	107	400
8	400	300	401	300	107	400
9	400	400	400	300	107	
10	300		400	300	307	

Source: [Frost] and Griffiths, 1971, p. 442]

the age or grade of the student reading it. This means that if a sixth grade student is reading then a second grade book, the criteria which would be applied would be the value range for the properties in second grade readability cluster' (Frost1, 1984, p.8). Thirdly, there is an inverse relationship between word recognition errors and difficulty level of material-- With easier material a reader can make more errors and still achieve sufficient comprehension than by one with more difficult material...

Frost1 (1984) later stated that this differential effect of error patterns across reading levels is due to the difficulty or readability level of the material, not the age or grade of the reader. The studies seem to support this notion.

Wardner (1980) compared the reading performances of second, primary third graders and reading-disabled fourth, fifth, and sixth graders. The students were matched according to mean reading grade, LLI, and sex. She found little mean difference between the two groups on the subscale of the Spoken Fluency Reading Test, Werner's Reading-Fluency Description, and the First Silent Reading Materials Test.

Shneiderman (1976) is a study which included the administration of an analytical task battery to a group of underachieving students observed that when a child had problems in reading, the nature of his errors represented the readability level of the material at which he was functioning and not his grade placement, age, or dysfunction. For example, in a word placement reading procedure, illiterate retarded readers had a mean percentage of errors greater than that of normal children from similar word-sensory backgrounds. It was found that the number of errors was unrelated to the students' chronological age, WISC

which could give an percentage rating to this Range Reading Activity (RRA) score' (Stansbury, 1978, p. 188).

Power (1978) has recently revised his criteria for comprehension based on the results of studies (Phonics, 1972; Page, 1976) that clearly show comprehension increasing with grade levels. Lower grade students perform on comprehension tasks less effectively, due to poorer processing, than higher grade students who actively monitor and transform language as they process it.

Assuming that a level for student sufficiency for comprehension can be established, and assuming that there exists a strong relationship between comprehension and word recognition, as several studies have supported (Jory, 1976; Gollwitzer and Anderson, 1976; Fox and Gollwitzer, 1974), then 'a developmental word recognition score should predict differential values for comprehension performance' (Power, 1978, p. 17).

Power's (1978) revised criteria for comprehension are given in Table 2-4. His criteria's of first and second grade reading, Power suggested a 60% level of comprehension is adequate for instructional level in materials used during at night. A 50% criterion is suggested to be sufficient for difficulty levels three, four and five. For reading levels at sixth grade or higher, he concluded that 60% is the adequate satisfactory level to estimate quality of performance. Power explained how he derived these criteria:

These data are derived by taking the class criterion scores from the Research data (1976), the peak end class scores on Page (1974) the highest class comprehension figures (Jory, 1976) with the word recognition figures . . . (Power, 1978). While these scores are quite different from the traditional 75 percent criterion (which was derived from early school leavers' criterion for promotion and placement decisions, but arbitrarily determined), they are more realistic than the arbitrary percentage set without any particular precedent. A class score that has been achieved by students

Table 3-4. *ProseT* is scoring criteria for the Informal Reading Inventory showing the revised comprehension criteria.

	Word recognition	Comprehension
Independent Level		
1 - 2	1/11+	80+
3 - 4	1/17	80+
5+	1/20+	80+
Instructional Level		
1 - 2	1/20 - 1/34	80 - 89
3 - 4	1/12 - 1/20	80 - 89
5+	1/18 - 1/28	80 - 89
Frictional Level		
1 - 2	1/27	65
3 - 4	1/12	65
5+	1/17	65

Source: Chaffin, 1985, p. 103

actual performance. Extrapolating then into a differential readability framework provides a more realistic evaluation of comprehension performance. (Fowell, 1980, p. 10)

Fowell (1980, 1981, 1982) has made a substantial contribution to developing criteria for informal reading inventories to begin with. The degree to which his findings can be generalized to other populations awaits further research.

Bankolt (1980), a student of Fowell's, investigated the relationship between the readability of instructional materials and gains in reading achievement over a six month period. The difficulty level of materials was evaluated with an informal reading inventory, therefore, the study also investigated the validity of the IRI for the purpose of finding the readability level at which children make the greatest gains in reading. Bankolt found that students in instructional level materials, as identified by the IRI, did make greater gains in reading than those placed in materials above or below their instructional level. His study, therefore, presents strong evidence that the IRI is a valid instrument for designating the instructional level. There were also several other important findings that resulted from the study:

1. The degree count of omissions, insertions, transpositions, substitutions, misspelling and unknown words correlated highest with comprehension scores. Including repetitions and hesitations did not improve the correlations.
2. Including a spelling score with the above score gave a potential estimate of passage difficulty 60 and below third grade reading level.
3. There was a differential effect of word recognition scores across levels of difficulty. Word recognition scores ranged from 404 to 756 for the second grade level, 603 to 873 for third grade level, and 603 to 881 for fourth through sixth grade levels. These findings were similar to Fowell's (1982).

4. The relationship between word recognition and comprehension weakened as passages became more difficult. Specific differences occurred for passages at the fourth grade level or above.
5. Comprehension performance seemed more sensitive to frustration, yet not superior to word recognition performance in identifying the difficulty level of material at and above fifth grade level, when students appeared to have more word recognition skill. The above word recognition scores were accepted as valid criteria for instructional level for grades two and three. Comprehension scores between 60% and 80% were accepted as tentative criteria for instructional purposes for grades four through six.

According to the results of Kuhlth's (1960) research, by the time a student reaches fourth grade reading level, when reading instruction switches from sk and begins to a letter analysis, it is questionable that word recognition accuracy is a valid criterion for placement in instructional materials. In earlier grades effect has been found with the phonetically consistent Czech language (Masagaki, 1969). New research is necessary to confirm or contradict these findings.

Reliability of the Informal Reading Inventory

If placement in instructional materials is to be determined by performance on an informal reading inventory, then it is important that an IRI yield consistent results. Several investigators have attempted to derive measures of reliability for the IRI.

Slomp (1961) constructed two forms of an IRI. He administered one form to 180 fourth grade students and another a week later to the same form to forty of the same students. He used the Cooper (1960) criteria for instructional and independent levels and the Betsy (1960) criteria for frustration level.

Seventy percent of the students tested on both forms were placed at the same grade level. There was a difference of one grade

level is placement for 10% of the students, and a difference of two grade levels is placement for 10% of the difference. Jinyi (1985) reported stable range (inter-rater correlations for Instructional and Evaluation levels, and concluded that this 10% had reasonably high reliability.

Jinxi (1986) reported that alphas on the 10% conducted by him and his students revealed that readings were more consistent between different levels of assignments and between different teachers at the lower grade levels than at the upper grade levels. He suggested several reasons for this including variation in the content, vocabulary, and language structure from one series to another, differences in the length of various sections, and differing in the topics in the book from which the selections have been chosen.

A competing finding was reported by Williams (1982) who also structured three separate 10%'s from three third reading series. All three 10%'s were given one week apart to 70 subjects from fourth, fifth, and sixth grades. The correlations that were obtained between the three structural levels on all three 10%'s ranged from 0.83 to 0.88. These correlations indicated high reliability. All three 10%'s ranked the students in similar order. However, Williams reported that there were significant differences among the three 10%'s in terms of the grade level assigned to students.

Williams also obtained inter-rater reliability by having three classroom teachers reflect their students in each class with each category. Correlations between the teachers' results and Williams' results on the three different 10%'s ranged from 0.87 to 1.00.

Gillies (1983) constructed alternate forms of an ISI designed to place students at instructional level in science materials. He used Latta's criteria for instructional level. Correlations between the two forms of the tests were 0.81 at the fourth grade level and 0.88 at the fifth grade level.

McGowan (1982) obtained high reliabilities for alternate forms of his Standard Reading Inventory. He had two students administer alternate forms of the Standard Reading Inventory to 48 students to produce one through six. He reported that the median correlation between the two forms was 0.83.

McGowan (1982) also addressed the question of reliability of informal measures of comprehension, a point on which the ISI has often been criticized. He pointed out that even though each passage in an ISI weekly has more than ten questions, the ISI is usually administered over several passages and the cumulative number of questions approaches substantial reliability.

Gillies (1983) constructed alternate forms for the Efficient Oral Reading Test. The correlation coefficients ranged between 0.83 and 0.88 for grades four, five, and seven, with the lower grade levels showing the higher correlations.

The important point to obtaining reliability for the ISI is that it be carefully administered in a prescribed manner, using criteria that are supported by research. As Bunker has stated,

. . . It appears that when informal tests are administered with such care they give many of the properties of standardized tests without losing the advantage of being informally constructed. (1976, p. 26)

Validity of the National Reading Inventory

Beard's (1971) study was the first attempt to validate the NRI. McCloskey (1980) developed the Standard Reading Inventory based on three different basal reading series. He obtained content validity for his inventory by using, as much as possible, the readability from the three basal series, retaining the sentence length, content, and style of the series and maintaining the readability level of the stories with the Spoken and Dale-Chall readability formulas. He corroborated the content validity by testing 600 children to grade six through six, and by subjective evaluations of 30 reading experts.

McCloskey and Nelson (1976) further tested the validity of the NRI by administering the Standard Reading Inventory, the Basal Reading Inventory and the Comprehension Inventory to 100 students to grade six through six. They found significant differences in mean reading achievement at successive grade levels on the two inventories. They also found increasingly higher mean scores at each successive grade level. This finding supported the validity of both inventories.

A comparison of the mean levels of achievement on the Standard Comprehension Inventory with the instructional levels observed on the two inventories was evidence of the construct validity of the two inventories.

Significant correlations at the 0.01 level were found between the Standard Reading Inventory and the Basal Reading Inventory. The correlations ranged between 0.70 and 0.80. These results give evidence to indicate that the two inventories, which were developed independently, measure the same (BTT).

McCredden and Butler's (1995) findings substantiated the validity of the two inventories and the validity of informal testing.

Iskold, Broffke, and Kachala (1996) proposed a research design for cross validation between reading tests and readability measures using correlational and archiving procedures. Reading performance on the Minnesota Reading Inventory (McCredden, 1994), the Local Reading Inventory (Iskold, 1991), and the Diagnostic Reading Index (Dowdle, 1984) was compared to performance in school reading materials using Delta' (1990) instructional level criteria for RE for word recognition and PR for comprehension. The readability estimates of the school reading materials were obtained by using four different readability formulas: the Spache Readability Formula, the Dale-Chall Formula for Readability, Readability, the Flesch-Flexing Readability Formula, and the Smith-Ferguson Publishing Company's readability estimates. Using correlational and archiving techniques, all reading test scores were compared with all readability estimates of the criterion. They found unusually high correlations among all reading tests and readability estimates. The concurrent validity coefficients ranged from 0.70 to 0.88. They concluded that it is possible to determine the grade of texts if several readability estimates are used.

Iskold (1996) established productive validity for the DR with his finding that students placed in instructional level materials, as identified by the DR, were greater when in reading than those placed in materials above or below their instructional level.

Use of Oral Reading

Oral reading rate is measured by a number of oral reading tests (McCracken, 1988; Suroff, 1988; Gray, 1988; Gray, 1992; of course, 1988; Spache, 1962). There appears to be substantial justification for including rate as the criteria for determining instructional reading level since rate has been found by several studies to have discriminating qualities. McCracken (1988, 1992) found that rates of oral reading distinguished among good, average, and poor readers. Malina and Smith (1980, 1978, 1973) and Smith and Malina (1988) found word-by-word reading a common characteristic in both good and poor readers in second grade, but only a common characteristic of poor readers in third, fourth and sixth grades. Malina (1980) found that retarded readers were slower readers than normal-progress readers. In their validity study of the DII, McCracken and Malina (1990) found rate of reading to be the second best sensitive subject on the Standard Reading Inventory. It was more sensitive than word recognition errors.

In a study of error patterns, rates and grade equivalent scores on three individualized oral reading tests, Bennett (1970) found that rates of reading differed significantly between independent, instructional, and frustration levels of performance. McCracken's (1987) research supports this finding. He found that rate of reading was a very sensitive measure of the difficulty a student faced while reading, and was a particularly good predictor of Frustration level in longer passages. However, in McCracken's (1992) study, speed of reading was not by itself a determinant of Frustration level unless the difference between oral and silent reading rate was 10 words per minute or more.

In a study conducted in Spain which sought to find the relationship between age and reading rate and age and word recognition scores in Spanish, English, German and Irish (1971) found that there was more intercorrelation as a measure of reading maturity than the number of word recognition scores made.

Lewis and Hansen (1961), using a method for reading placement based on combined aspects of the IQ and applied behavioral techniques, found that correct reading rate (number of correct words per minute) was more sensitive to changes in grade level than either fractional rate or comprehension percentage.

Samuels, Kopp and Chan (1976-77) made a comparison of the word recognition speed and strategies of less skilled and more highly skilled readers. They found that the two types of readers were equal in word recognition accuracy, but that the more highly skilled readers had superior word recognition strategies. The better readers were able to process the fastest words at a faster rate and were also more aware of looking back a syllable when they identified a word incorrectly. Kopp and Kopp (1977) found results similar to those of Samuels, Kopp and Chan (1976-77). Schickel and Anderson (1978) also found that skilled readers were quicker and more efficient at interference tasks than less skilled readers.

Berry and Kopp (1978) pointed out that many factors which influence comprehension also reflect reading rate. Since there is a strong, positive relationship between word recognition ability and comprehension (Hart, 1978; Pass and Anderson, 1978; Griffin, Kennedy and Chapman, 1981), it is not surprising that word recognition ability has been found to influence reading rate. Hart (1978) found that rapid readers with fewer mistakes (Baker (1971), in his study of oral reading,

reported correlations between 0.25 and 0.75, with a mean r of 0.57 between speed and word reading scores. He found the highest correlations at the first and second grades, where the word reading rate was also the lowest.

Samuels (1988) investigated the effectiveness of a method employing repeated readings to increase the reading speed of slow learners. He found that as speed increased, word recognition scores decreased.

One implication of more rapid word recognition is that better readers probably decode words with less attentional burden, that decoding occurs automatically, attention can be focused on comprehension that is being read (see Berge and Samuels, 1993). This automaticity theory would seem to be supported by the relationship that has been found between rate and comprehension.

Reading Rate and Comprehension

The relationship between reading rate and comprehension is complex. Results of studies investigating this relationship vary according to what is being measured. Receptions' studies which have compared the reading speed of good and poor readers, as defined by comprehension measures, have found that reading speed and comprehension are highly related for young readers. In a study which compared high skill with low skill third and fifth graders, Perfetti and Hogben (1988) found that the skilled readers had much lower recognition latencies than less skilled readers. Recognition latency was defined as the time taken to begin reciting single words flashed on a screen. In another study which compared high skill with low skill third and fourth graders, Hogben and Perfetti (1988) found that the low-skilled

reading was considerably slower than the skilled readers at single-word recognition. Kuhlman and Torgesen (1979) concluded from these findings that word decoding leads to high comprehension. One reason for this, they speculated, is that word decoding leaves more resources for comprehension.

The results of studies which have investigated the relationship between speed and comprehension in controlled discourse have varied according to the type of material used, the age of the reader, and the way in which the two factors are measured (Smith, 1981; Harris and Gray, 1971).

Differences in the difficulty level of the material affect the relationship between rate and comprehension. In easy or familiar material, speed of reading is strongly related to comprehension (Lipka, 1973; Smith, 1981). However, as the difficulty of the material increases the relationship of rate and comprehension decreases (Lipka, 1973; Torgesen, 1980).

Differences in the age of the reader also affect the relationship between rate and comprehension. There appears to be a stronger relationship between rate and comprehension in the primary grades. This is because slow rate in the early stages of reading is usually caused by problems with word recognition which impede comprehension (Harris and Gray, 1971).

The relationship between rate and comprehension depends on whether or not the two factors are tested on the same materials. Torgesen (1980), Anderson and Torgesen (1980), and Smith (1981) have reported high correlations between rate and comprehension when the two factors were measured on the same text. Low correlations between

rate and comprehension of approximately 0.30 have been reported when the two factors were determined on two different levels (Bardis, 1967).

Many other factors, including variation in the intelligences and purposes of the reader, the subject matter content of the materials, and the testing procedures have also affected the relationship which has been found between rate and comprehension (Bardis, 1967; Harris and Sipay, 1975). All these factors must be considered when attempting to understand the complex relationship between reading rate and comprehension.

Good reception, comprehension, and reading rate appear to be related to one another, but further research is needed to fully understand the exact nature of their relationship and how this relationship can be used to determine criteria for instructional placement.

Good Reading Behavior in Spanish

Most of the research on oral reading behavior has been on reading in English. There is only a limited amount of information available on oral reading behavior in Spanish. Several researchers have expressed the need to investigate the reading ability of Spanish-speaking children in the United States (Gonzalez, 1974; Litwagner, 1981; Brown, 1982; Brown and Briggs, 1985a, 1985b; Zayas, 1979). However, only very recently Olague, 1985; Barrera, 1986] has there been an effort to give thought into the reading performance of these children in Spanish.

Traditionally reading has been viewed by scholars in Latin America and Spain as basically a decoding process (Gonzalez, 1982; García García, 1983). This perception view has had unfortunate

refigures on the teaching of reading to Spanish-speaking children (García López, 1981; García Solís, 1975). However, recently there have been some professionals who view reading more as a cognitive and linguistic process (Hindley Hernández, 1983; Solari, 1985; Quintero, 1985; León, 1984).

José Luis Hernández (1984) has described reading as a dynamic process which involves the reader in listening, observing, and reflecting on what the author says. According to him, the main purpose of reading is to derive meaning from the page. Solari (1985) has compared reading acquisition to language development and sees reading skill as a necessary skill in acquiring knowledge. Both Solari (1985) and León (1985) emphasize the active mental involvement of the reader. León (1984) believes that comprehension and word recognition should not be separated and that both should be emphasized from the very beginning of reading instruction.

These theoretical viewpoints have not been critically reconsidered in the Spanish literature. Only a few empirical studies were found that analyze the reading process in Spanish. They are reviewed here:

The earliest studies conducted by Sney (1950) on Argentinean children have revealed that the skill of recognition in Spanish is the word, or phrase, not the syllable or letter. In a study conducted at the University of Chicago with native speakers of fourteen different languages, Sney (1950) found no differences in eye movement patterns, maybe the differences in form and structure of the various languages.

López (1977) investigated the reading behavior in Spanish of Mexican American second and third graders. She sought to find out if Spanish-speaking students use their language background and the content of what they read, as well as phonics knowledge, to predict sentence context. She had students, who ranged in instructional reading levels from pre-primer to third grade, read words in isolation and in context at their instructional level. The findings revealed that, at every reading level studied, subjects presented a significant number of words correctly in context that were pronounced incorrectly in isolation. Examination of the contextual errors revealed that the majority of mispronounced errors violated the meaning of the content. "The subjects appeared to be reading the first letter or syllable(s) and to be guessing from that, at the basis of story content" (López, 1977, p. 780). López concluded that Spanish readers used context, as well as phonics knowledge, to help them recognize words.

In a similar study, R. Ramirez (1979) analyzed and compared the oral reading errors in English and Spanish of 50 third grade bilingual Mexican American students. His data were coded and analyzed according to Ramirez's procedures (Ramirez and Burke, 1972). Records for analysis were written at the subjects' instructional level as determined by an IRI.

For the IRI, L. Ramirez used a 95% to 99% word recognition criterion and 80% to 90% comprehension criterion. The results of the IRI revealed that the mean number of errors per six targeted words in Spanish was 4.2, with a range from 3.5 to 5.0. She found that 27.6% of the errors on the IRI were self-initiated, 3.3% were initiated,

If TL rated word frequencies and the orthographic classes were not orthographically identical.

For the lexical analysis, B. Barrera (1978) found that the Spanish-speaking students had less syntactic and semantic control in English than they did in Spanish. The syntactically unacceptable utterances in English ranged from 27.85 to 41.00 as compared to a mean of 15.75 in Spanish. The semantically unacceptable utterances in English ranged from 34.75 to 50.00 as compared to a mean of 24.75 in Spanish.

B. Barrera (1979) found that 50.75 of the students' utterances in Spanish revealed a high phonetic similarity between the expected responses and the oral responses. Close to 40% of the groups' utterances revealed a high graphic similarity between expected responses and oral responses. There was also high (34.75) syntactic acceptability for the utterances. Thirty-four percent of the total utterances were found to be syntactically acceptable at the sentence and phrase levels.

Regarding the lexical analysis in Spanish, B. Barrera concluded that:

... reading Spanish does not involve solely the processing of graphemic code, but also involves knowledge associated to the reader of the language background and his knowledge of the material being read. The analysis in Spanish also indicates that the young Spanish speaking reader does not merely process what he sees, or hears or feels, but that he also anticipates and predicts his way through written text, sampling larger language meaning units than the individual word. (p. 277)

Good and Goodfarb (1979) examined the oral reading errors in Spanish made by Colombian second and fourth graders reading two Spanish stories containing different kinds of high and low frequency words. Their purpose was to determine whether or not a frequency such as Spanish, which has a more consistent sound-system correspondence than

English, might be more efficiently read if more attention was given to the graphic features of whole words than to syntactic and semantic cues (Good and Kamhi, 1971).

The use of graphic cues was inferred by the resemblance of the graphic features of the errors to the text. They judged the use of contextual cues by observing the appropriateness the errors were to the syntax and meaning of the text.

The results of the study indicated that Spanish-speaking subjects at first grade made more significantly fewer errors on a passage with high-frequency words than on a passage with low frequency words. Word frequency facilitated word recognition, despite the irregularity of sound-letter correspondence in Spanish.

An additional finding was that the Spanish-speaking students made more nonconformant errors than a sample of English-speaking students at corresponding grade levels. It was hypothesized that this was due to the heavy emphasis on phonics in the Spanish reading curriculum.

Another study on word reading behavior in Spanish was conducted by Espadas, Gonzalez and Irujo (1971) in Spain. These investigators used a sample of 260 children, ages seven to ten, to determine the relationship between age and reading rate and age and number of errors.

The subjects were gathered into groups of 10 at each age level and reading was tested on a short passage and word recognition errors and reading rate were recorded. The results of the testing indicated that word recognition errors and time taken to read the passage progressively decreased as age level increased. A critical ratio test was used to look for significance of differences between reading errors

scale at different age levels. There were significant differences in word recognition errors between ages seven and nine, seven and ten, eight and nine, eight and ten, but no significant differences between ages seven and eight and nine and ten. There were very significant differences ($p < .001$) in reading speed between all age contrasts, except ages nine and ten. There was a moderate correlation between reading speed and word recognition errors at each age level. However, the correlations for the nine- and ten-year-old age levels were significantly higher than the correlations for the seven- and eight-year-old age levels.

In the issue of the month, Hughes, Greenberg and Ross (1983) concluded that the study proved useful for discriminating between students with reading difficulties and those without difficulties. Additionally, they concluded there appeared to be two different subgroups within each that corresponded to the mean for eight-year-old group and the other to the mean for ten-year-old group. Furthermore, they concluded that there was more discriminating than the number of errors criterion made despite the fact that both factors correlated with each other significantly.

The third source of data reflects on Spanish-speaking students' word reading behavior in Spanish tests to indicate that reading in Spanish is similar to reading in English. Our research patterns are the same in both languages. Just as in English, reading rate is an important factor in developing reading proficiency and a significant source of diagnostic information. Students reading in Spanish, just as students reading in English, use their experiential background, their knowledge of the language, and internal clues to predict meaning and syntactic structures expressed in the text.

The readability of the text affects oral reading performance of students. Therefore, the readability level of classroom materials needs to be accurately determined. This is as true in Spanish as it is in English.

Readability in Spanish

There is only a limited amount of information available on readability in Spanish. The two readability formulas that do exist have not had the use (Rodríguez Trujillo, 1980a). In Spanish-speaking countries there has been little published on the concepts of readability (Rodríguez Trujillo, 1980a). In many cases, publishers of Spanish textbooks have assessed the difficulty level of their materials either through word frequency counts (Borche, 1977) or through use of professional judgment.

One of the most important works which has had a large impact on readability in Spanish is Rodríguez Irujo and Múñiz's (1982) Guía para la Escala de Frecuencia de Palabras, a detailed study of more than seven million Spanish words. Rodríguez Irujo and Múñiz continued their work with previous work, especially the word frequency study of Hansen (1980). Their study was done in Puerto Rico and included the counting of spoken and written vocabulary of children and adults, contemporary publications, radio programs, and the Hansen word frequency list.

Rodríguez Irujo and Múñiz's comprehensive study has led to the publication of several basal reading series in which the difficulty level is controlled through word counts (Borche, 1977). It has also been used as the basis for estimating estimates of word difficulty on the Flesch-Kincaid (1975) readability formula and the Spanish American Development Center's (Pearson et al., 1976) readability formula.

In 1933, Victor Garmé Ruiz (in *Antiguas fragmentos*, 1933) published in Spain the *Tratado de la Lengua*, *Smith y Pedemonte*. A study which sought to determine the minimum vocabulary necessary to express oneself in Spanish. A sample of 5 million words was taken from personal letters, published documents, newspapers, and books. These word lists were developed from factorial analyses on the degree current vocabulary of approximately 50,000 words, a common vocabulary of 3,000 words and a basic vocabulary of 500 words.

A new word list called the Frequency Dictionary of Spanish words (Zollman and Chang-Rodríguez) appeared in 1964. Zollman and Chang-Rodríguez used a sampling process that resulted in a more reliable weighting of word usage.

As Rodríguez fragmento (1938) has pointed out, a common characteristic of word frequencies is their importance. As language evolves, word meanings and word usage change. Also, the frequency of usage for words changes from one study to the next. These factors are important to consider when constructing readability formulas based on word frequencies.

In 1931, Seth Spaulding published "The formula for detecting the reading difficulty of Spanish," an article describing his development of his readability formula for students of Spanish as a second language. Spaulding developed his readability formula by determining, through multiple regression analysis, which language variables had the highest correlation with a criterion set up by 48 judges. Average word length, average sentence length, average frequency ratio of words according to Leechman's (1920) frequency word list and density

of the passages were all considered in the analysis. Spaulding assumed that the first 1,000 words in the lexicons listed and English/Spanish corpora were "known" by the target group, and above this cutoff point, the words were "unknown." It was found that the word frequency index, word density, and average sentence length were the best variables to include in a formula. Since word frequency and density correlated highly with each other (0.94) and, therefore, measured the same thing, Spaulding decided to use them in two separate formulas.

The difficulty rating given by the two formulas ranged from 10 to 200, 10 indicating an easy passage and 200 indicating a difficult passage. The reliability of formula 1, which used the corrected frequency index, was found to be 0.95 and the reliability of formula 2, which used the density measure, was 0.97. Spaulding stated that the difficulty index is probably less accurate for native Spanish speakers because of the nature of the criterion and because of the rating of English/Spanish corpora as "known" or easy words.

In 1984, Spaulding offered a simplified version of one of his formulas to make estimation of reading difficulty easier to obtain. His 1984 article included a formula that began the easy calculation and a "word list used 1/3rd" of the first 1,000 words from Schenck's (1970) frequency word list for easy reference.

More reported was research with adult beginning readers in 1976 by Levine which revealed that passages rated between 40 and 60 could be comprehended with no difficulty. For this group of people, passages rated between 61 and 80 were found to be of questionable difficulty and those above 80 were too difficult.

An research-based estimate of grade level equivalence has been established for the numerical rating of the Spaulding readability formula. Hansen, Tinsley (1976) has suggested grade level equivalence based on teacher judgment and experience. .

Poliquin (1932) replicated Spaulding's work and provided a larger and more updated difficulty word list which was based on both the Dickson (1928) and the Hotspass list and Haines (1928) frequency word lists. Poliquin used the same method of calculating difficulty level and the same readability graph.

In a study of simplified cursive and traditional cursive writing in Spanish, Ruder (1975) used the Spaulding (1928) and Poliquin (1932) readability formulas to estimate the reading difficulty of the passages he constructed for cursive writing. He found differences in how the passages were rated by the two formulas. There was an average of six words' difference between the two formulas for the intermediate passages and an average of 22 words' difference for the upper-grade passages. The Poliquin formula consistently rated materials at a lower difficulty level than the Spaulding formula. Ruder (1975) considered the Poliquin formula to be more consistent in his estimate than the Spaulding formula.

Garfield (1977) investigated the possibility of adapting the Fry Readability Graph (Fry, 1951) to Spanish, for Spanish as a second language. Two studies were designed for this purpose. Study 1 attempted to determine whether the two criteria that form the basis of the Fry Graph in English, word length and sentence length, could be adapted to predict readability in Spanish, for Spanish as a second language. A vocabulary list and a sentence list constructed to 104

high school students of Spanish as a second language confirmed that in Spanish, as in English, longer words are more difficult than shorter words and longer sentences are more difficult than shorter sentences.

A Spanish level reading series was used to calculate average sentence length per 100 words and average number of syllables per 100 words. García (1977) readjusted the vertical and horizontal centers of the Fry Graph to reflect his findings that Spanish has an average of 1.8 more words per sentence per 100 words than English, and an average of 42 more syllables per 100 words than English.

The six Spanish readers plotted well on the Fry Graph Adapted to Spanish, except for the sixth reader. The primer could not be plotted on the graph.

In Study II, García (1977) used the class procedure to cross-validate his findings for the Fry Graph Adapted to Spanish. The class test asked the Spanish readers to use the order on the Fry Graph Adapted for Spanish, not only for sentence complexity during the test. It was concluded that the class test can be used to determine readability to Spanish for those students with adequate grasp of the language and reading ability beyond the decoding stage.

The results of the study indicated that the Fry Graph can be adapted to Spanish to determine readability levels of materials. García concluded that there is a need for the development of a curve for Spanish readers and suggested that the grade levels used by Fry (1944) in his graph be substituted by the six descriptive levels of reading difficulty used by Spaulding (1964).

Griffen, Isola and Neustrom (2000) also investigated the possibility of adapting the Fry Readability Graph (Fry, 1961) to Spanish. They found that the Fry Graph can be adapted to predict Spanish readability for grades one through three by using a syllable subtraction factor. When they subtracted the number 67 from the average number of syllables counted in a one hundred word sample, "most of the Spanish syllable counts looked within the same bands as the Fry Readability Graph as their English counterparts" (Griffen, Isola and Neustrom, 2000, p. 486). By using the syllable subtraction factor they found that sixteen of the twenty-two books that they plotted on the Fry Graph indicated the same grade level as the publisher had designated. Further research needs to be done, however, to establish the predictive validity of this adaptation of the Fry Graph to Spanish.

An instrument for estimating the relative difficulty of reading materials in Spanish was developed by the San Diego Public Schools (Portner et al., 2000). It was verified by the Spanish Curriculum Development Center (SCDC) staff to be used in developing reading materials for the bilingual program in San Diego. The instrument gives an estimate of reading difficulty in terms of average sentence length and difficulty of vocabulary. Word difficulty is estimated by counting the number of words in a passage that are not on the Easy Word List. The Easy Word List is based on Rodriguez and van Marck's (1988) word frequency study. No research was done by the developers to establish cross correlations for the instrument.

San Diego Trufilla (1986a) reported on a readability formula developed in Venezuela in 1976 by Rodriguez et al. at the Department

on Hulejová's research of the Ministry of Education. The readability formula was developed using multiple regression analysis. The variables related into the formula were the number of words, the number of letters, and the number of sentences in a sample. The criterion used for the formula was a cloze test that was administered to eighth grade students. Rodríguez Trujillo (1992a) reports that the Rodríguez formula only explained 10% of the variance of the difficulty of the sample from which it was developed.

Sefferng's types of criteria have been used in the development of Spanish readability formulas. The most recent criterion is to count the class procedure. This procedure is a method by which words are deleted from a text and replaced by a standardized blank. The reader is asked to fill in the blank using the vocabulary of the surrounding language as cues. Sefferng can count all every odd word or they can count all every word of a particular syntactic type.

Research by Coleman (1987) and Garmuth (1988) indicates that cloze test scores on a large number of passages spanning a wide range of difficulty can be used as criteria in formula development. Most cloze scores have been used as the criterion they have consistently yielded higher predictive validity coefficients for readability formulas than have multiple-choice test scores (Miller, 1971, 1974).

Studies by Taylor (1961), Rodriguez (1987), Bellman (1984), and Garmuth (1988) have indicated that the cloze procedure can give a valid measure of readability. Garmuth's (1988) investigation surpassed the rank ordering of nine articles spanning three elementary grade levels. The rankings were determined both by the cloze procedure

and by a multiple-choice criterion test. The correlation between the two sets of results was 0.82.

Valid results have been reported for the class procedure with Spanish (Morris, 1979 and Rodríguez Trujillo, 1982) as well as with other languages (Taylor in Smith, 1983; Süßperl, 1983, and Schwan, 1987).

Rodríguez Trujillo (1986a) argues that readability formulas are only as good as the linguistic variables used in their derivation. Up until recently the two variables of word difficulty and sentence difficulty have been used in the construction of readability formulas (Jones, 1986). These variables, Rodríguez Trujillo (1986a) argues, are only indirectly related to the reading process. What is needed, he states, is research on the linguistic variables that are more related to the reading process and, therefore, are better predictors of the readability of materials. With better linguistic variables and with the use of the class procedure as a criterion, more valid and reliable readability formulas in Spanish can be developed (Rodríguez Trujillo, 1986a).

Summary

Eight areas of research and resources related to this investigation were reviewed.

The historical development of the BE was presented. As early as 1920, informal tests have been recognized as important diagnostic and placement tools for classroom teachers. Smith (1986) introduced the concept of the Independent, Instructional and Frustration levels and suggested criteria to identify each of these levels. His criteria

were based on Klopfer's (1980) study and were intended for use as oral reading passages by silent reading. Later criteria have been the most widely used standards for identifying reading levels as of 1981.

Posnett (1979) questioned Klopfer's criteria based on his findings suggesting less stringent, differentiated criteria at different reading levels. Posnett also found an inverse relationship between word recognition errors and the difficulty of materials. With easier material there was more error indicated for understanding than with difficult material. Posnett's findings were supported by the criteria of first oral reading level, the standards of which were based on student's reading performance (Posnett and Smith, 1977).

The reliability and validity of the DC were assessed. Evidence was found that the DC is a reliable and valid instrument for diagnosing student's instructional levels. Williams (1981), Kuttler (1982) and Robinson (1983) found high reliabilities for the DC. Bolander (1979) found evidence of the predictive validity of the DC. Robinson (1980) obtained the content validity of the Standard Reading Inventory. Robinson and Kuttler (1982) obtained convergent validity for the Standard Reading Inventory and the First Reading Inventory. Smith, Smith, and Kuttler (1978) found evidence for the convergent validity of the Standard Reading Inventory, the First Reading Inventory and the Standard Reading Scale.

The research and literature on rate of oral reading was reviewed. Evidence was found for including rate in the criteria for determining student's instructional reading levels. Robinson (1980, 1982) found rate of oral reading discriminated among good, average

and poor readers. Smith (1982) found that related readers were closer readers than non-related readers. McCloskey (1987) and Samuels (1987) found that effort was significantly between instructional and frustration levels. Spader, Cameron, and Lova (1971) found that low word discrimination than word recognition errors in dictation-pairing between good and poor readers in Spanish. Comparisons of less skilled and more highly skilled readers before than better readers process words faster when given perceptual tasks (Samuels, 1989, and Chen, 1976-78, Roper and Kaiser, 1971). Samuels (1978) found a significantly negative relationship between word recognition errors and reading rate as a skilled writer repeated readings to increase reading speed.

The research and literature on reading rate and comprehension were surveyed. The research indicates that the relationship between these two factors is complex. The results vary according to what is being examined. Perceptual studies have found a strong relationship between reading speed and comprehension (Perfetti and Neuman, 1979; Neuman and Perfetti, 1971). An explanation for this could be that when decoding occurs automatically, attention can be focused on comprehending what is being read (La Beyer and Samuels, 1974). The results of studies which have investigated the relationship between speed and comprehension in connected discourse have varied according to the type of material used, the age of the reader, and the way in which the two factors are measured (Baker, 1981; Harris and Simpson, 1981). In case of familiar material and at the early stages of reading, the relationship between reading rate and comprehension is strong (Harris and Simpson, 1979, Spader, 1976, and Baker, 1981).

However, the relationship between reading rate and comprehension is critical when the material is being difficult, when critical reading is required, when the reader's purpose is searching, and when the text features are obtained on the different levels (Kutaka, 1983; and Spauld, 1988).

The research and literature on oral reading behavior in Spanish were examined. The greatest amount of data available on Spanish speaking students' oral reading behavior seems to indicate that reading in Spanish is similar to reading in English. The cognitive processes are the same in both languages (Rog, 1991). Just as in English, reading rate is an important factor in developing reading proficiency and a significant source of diagnostic information (Oroszko, Gonzalez, and Ross, 1992). Students reading in Spanish, just as students reading in English, use their experiential background, their knowledge of the language, and context clues to predict meaning and implicitly structures expressed in the text (Rog, 1991; P. Garrahi, 1988).

The last section of the review examined the research and literature on readability in Spanish. Several Spanish readability formulas were discussed. Spaulding's (1981) formula was developed for students of Spanish as a second language and used the judgment of 40 experts as a criterion. Feldman's (1981) modified Spaulding's work and provided an original readability scale that based on Leechman's (1980) and Rodriguez and del Rial's (1982) word frequency studies.

The RCSC formula (Bartlett et al., 1974) uses a similar procedure to the Spaulding (1981) and Feldman (1981) formulas for

dealing in terms of word difficulty and sentence difficulty. An important difference between the SDI formula and the other two is that the SDI formula was specifically developed for Spanish-speaking bilingual children. For this reason, it was used in the present study.

Different types of criteria have been used in the development of Spanish readability formulas. The most recent criterion to be used is the cloze procedure (Hendle, 1957, borrowing in Rodriguez Trujillo, 1966). There is evidence that this procedure yields higher predictive validity for readability formulas than substitute-choice tests (Jettner, 1978, 1979). Furthermore, there is strong evidence that the cloze procedure is a valid measure of readability (Dwyer, 1944; Jorgensen, 1952; Jettner, 1944; Jensen, 1955; Rodriguez Trujillo, 1957; Smith, 1965; and Torgesen, 1981).

A critical reading test for Spanish readability formulas with research-based grade level designations. These formulas should be based on linguistic variables which are directly related to the reading process. They should also use the cloze procedure as a criterion.

CHAPTER 11

PROCEDURES

The main purpose of this study was to determine the word recognition, reading rate, and error rate scoring criteria for the LRE. Another purpose of the study was to test the hypotheses regarding students' reading performance on the LRE. The procedures used in this investigation are presented in this chapter. The description of the procedures is divided into the following sections: (a) selection of the site, (b) selection of the subjects, (c) development of the LRE, (d) validation of the reliability of the LRE, (e) administration of the LRE, (f) computation of the criteria, and (g) analysis of the results.

The study involved the development of the LRE and the collection of data with the LRE in order to determine word reading behavior in Spanish.

Selection of the Site

Miami, Florida, was selected as the site. The selection of this site was important to the study. In order to study the reading behavior of bilingual students in Spanish it was necessary to find students who had a reading repertoire in Spanish. Spanish for Spanish speakers was initiated in 1971 in Dade County, Florida. Therefore, the bilingual students had had several years of instruction in reading in Spanish.

Another consideration in choosing the sites was the large number of Spanish speakers in Brevard County. In fact, the school-age population of Spanish speakers is continually increasing. Due to the influx of Cuban refugees to Brevard in the first part of 1980, there were twelve thousand new Spanish-speaking students in the public schools in the fall of that year.

One further reason for choosing Brevard County was that no study similar to this one had been done there. In fact, there had been little research on the reading behavior of Spanish or bilingual children in Brevard County.

Selection of the Subjects

The subjects for the study were native Spanish-speaking students enrolled in elementary schools in Brevard County, Florida. They were from three different schools. The schools were chosen on the basis of having a Hispanic student population of 500 or more. Two of the schools (Schools A and C) were elementary schools with a regular English curriculum and one class a day in Spanish language arts. The third school (School B) was a bilingual school with curriculum material offered in Spanish and English. All three schools were located in neighborhoods with large Hispanic populations. In two of the schools (Schools A and C) 50 to 60% of the student population was from low and moderate backgrounds. In the third school (School B) between 20 to 40% of the students were from lower socioeconomically backgrounds.

Only students who were either proficient in both English and Spanish or Spanish dominant were selected for the study. Additionally,

only students who had received instruction in reading in Spanish were used. Indeed, students without language skills not used for the study. This was done so that the subjects used for the study would have had a similar educational background.

The subjects were grouped according to the following three objectives: (1) to test the IRE to a pilot study, (2) to estimate the readability of the IRE, and (3) to collect data on the oral reading behavior of bilingual students on the IRE. The group used for the first objective was called the Pilot Study Group. For the second and third objectives the groups were called the Readability Group and the Behavior Group, respectively.

Subjects for the Pilot Study Group were selected from school 4 on the basis of their reading level so that their grade level placement (reading level) was determined from school records and was based on the *Pruebas de Evaluación y Evaluación para Lectura en Español* (HSMH) quinto-grado—cuarto Magallanes (receptive ORE).

The students were grouped according to reading clusters, as defined by Rowl (ORE). These reading clusters were as follows:

<u>Reading Cluster</u>	<u>Reading Level</u>
1st	400-450
2nd	450-500
3rd	500-550

This grouping was done for two reasons. First, it was a teacher process. In fact, which was done for the actual data collection on the

Criteria Group. Generally, it was to more likely that there was a sample of students who had functional levels within the range of reading levels represented by the three clusters.

Open clusters were selected for each of the three reading clusters. There were 4 girls and 2 boys in the first cluster, 4 boys and 2 girls in the second cluster, and 2 boys and 2 girls in the third cluster. The students were from the third through sixth grades.

Subjects for the readability group were selected from School A and B on the basis of their grade level. There were 10 students from School A and 10 students from School B. Table 3-2 shows the number of girls and boys at each grade level in each school.

The Criteria Group was selected on the basis of their reading achievement from a population of 100 students available for testing in School C. In order to select the students for the Criteria Group, the following steps were taken:

Step 1:

All 100 students were administered the reading tests on the Comprehensive Tests of Basic Skills/Expanded (CTBS/Expanded), WRAT. Table 3-2 shows the number of students at each grade level in School C who took the reading tests on the CTBS/Expanded.

The CTBS/Expanded was adapted by McGraw-Hill, Inc. from their Comprehensive Tests of Basic Skills, Form 3 (WRAT) to English. Care was taken to ensure that each item of the CTBS/Expanded was directly

Table A-3. Number of subjects from School's A and B controlling for grade level and sex.

Grade Level	Number of Subjects					
	School A			School B		
	Boys	Girls	Total	Boys	Girls	Total
2nd	71	72	143	10	78	88
3rd	72	70	142	9	72	81
4th	73	72	145	7	74	81
5th	9	77	86	14	77	91
6th	9	74	83	14	74	88

Table 3-2. Number of students at each grade level in School C who took the reading tests in the 4th grade.

Grade level	Number of students
2nd	30
3rd	25
4th	20
5th	20
6th	10

equivalent to the CBSE's in terms of skills assessed. However, a word-for-word translation was not done. The students used for the CBSE equating sample were both bilingual and bicultural. This was done so that a score on the CBSE/Spaldet could be directly equated to a score on the CBSE in English. The CBSE/Spaldet grade measures of grade equivalence, standard, percentile, and standard score.

Table 2

Students were classified according to their grade equivalence scores for Spaldt marking on the CBSE/Spaldet. Classification 1 was composed of students with grade equivalent scores of 4.0 to 5.0. Classification 2 consisted of students with grade equivalent scores of 5.0 to 6.0. Classification 3 included students with grade equivalent scores of 6.0 and above.

The classifications were related to Rawlin's (1981) reading clusters. Table 3-1 shows the reading clusters and the corresponding CBSE/Spaldet grade equivalent scores. An additional 1.0 point was added to the grade equivalent scores to be related to equate them with the reading clusters. This was done because it has been found that standardized test scores vary at least five grade-levels from a reported instructional reading level, as determined by the national reading inventory (Ottipal, 1943; Garfield, 1946; Milliken, 1948; Metz, 1954; Smith, 1944; and Brown, 1950).

Table 3-3: Roofing clusters and corresponding CBO/Expanded grant
replicated scores for total roofing

Roofing Cluster	CBO/Expanded Grant Expansion Score	Number of Clusters
Pre-prioritized	0-3.0	11
Post-2015	> 3.0-5	15
Other	5.0 and above	20

grouping subjects according to their reading achievement was done for two reasons. First, it was thought likely that there would be students who had functional levels within the range of reading levels represented by the three reading clusters. Secondly, this grouping had the same effect as blocking. It reduced the variation among subjects.

Step 3

A random sample of 40 students was selected from Classification 1. A random sample of 40 students was selected from Classification 2. All 20 students in Classification 3 were retained. These 100 students formed the Criteria Group.

Table 3-4 shows the number of subjects in each classification by sex and grade level. Most of the subjects in Classification 1 were from second, third, and fourth grades. Most of the subjects in Classification 2 were from fifth and sixth grades. Most of the subjects in Classification 3 were from sixth grade.

Step 4

This step checked the Criteria Group to determine if the random samples were representative of the classifications from which they were drawn, by calculating the respective means and standard deviations.

The result was that for Classification 1 the population had a mean grade equivalent score of 2.82, and the random sample had a mean

Table 3d. Number of students in the Erietta group by classification, grade level, and sex

Classification		Grade level					Total
		2nd	3rd	4th	5th	6th	
1	Boys	0	7	0	1	0	8
	Girls	0	7	0	0	0	7
2	Boys	0	1	1	10	0	12
	Girls	0	1	0	7	0	8
3	Boys	0	0	1	0	10	11
	Girls	0	0	0	7	0	7
Total	Boys	0	8	2	18	0	28
	Girls	0	8	0	14	0	22

grade equivalent score of 2.88. The standard deviations of the grade equivalent scores were 1.88 and 2.14, respectively. For Classification 2 the population had a mean grade equivalent score of 4.84, and the sample grade had a mean grade equivalent score of 4.88. The standard deviations of the grade equivalent scores were 4.22 and 4.81, respectively. For Classification 3 the population and the sample were the same. Table 3.4 reports these results.

In order to collect data for the study, the SRI had to be developed.

Development of the SRI

The development of the SRI involved the following phases:
(a) determination of the grade level estimates, (b) construction of the SRI, (c) selection of the SRI to a teacher workshop, and
(d) testing the SRI in a pilot study.

Determination of the Grade Level Estimates

In order to develop an informal reading inventory in Spanish with passages of increasing difficulty which were commensurate with the grade level, they were designed to measure. It was necessary to obtain readability estimates of graded Spanish reading texts.

As far as could be determined, there was no readability formula in Spanish for which grade level estimates had been established by research. Therefore, it was necessary to do some preliminary ground work on readability in Spanish.

A modified version of the Spanish Certificate Development Center's (SCDC) instrument for estimating the difficulty of reading materials

Table 1a. Means and standard deviations of total reading grade equivalent scores on the (TEG/Gazette) for the population and the sample

Classification	Mean of Total Reading Grade Equivalent Scores on (TEG/Gazette)	Standard Deviation	Number of Students	
			Population	Sample
I	2.52	0.49	68	
	2.49	0.64		40
II	4.86	0.33	76	
	5.83	0.49		42
III	7.60	0.86	10	
	7.60	0.86		20

to Spanish (Mortimer et al., 1981) was used in this study for a readability formula. The SCDC instrument provides a formula for predicting a readability estimate of materials in Spanish in terms of average sentence length (ASL) and average word difficulty (AWD). ASL is determined by dividing the total number of words in a sample of 100 words by the total number of sentences in the sample. AWD is calculated by counting the number of words in a sample that are not on an easy word list based on Smith-Spear (1963) and Flesch's (1952) word frequency study, and dividing this by the total number of words in the sample. The SCDC staff offers guidance in converting materials from other sources to materials which they have analyzed, but does not report research evidence for the predictive utility of the grade level ratings. Therefore, it was necessary to do research to obtain grade level evidence for the modified SCDC readability formula.

In order to estimate the ASL and AWD appropriate for specific grade levels of materials written in Spanish, a comparison was made of four Spanish basal reading series (GARCIA, 1977; LARSEN, 1971; RODRIGUEZ, 1969, and POLANCO-ORTIZ, 1970). The four basal series were compared in terms of ASL and AWD. The modified SCDC instrument for predicting the difficulty of materials in Spanish was used for this purpose.

A sample of approximately 100 words was taken off every tenth page in each book in each of the four Spanish basal reading series. The ASL and AWD were computed for each sample. The following procedures for computing the ASL and the AWD were modified from the SCDC publications.

1. When counting the number of words in a sample,
 - a. Samples never included titles
 - b. Samples were never begun or ended in the middle of a sentence
 - c. Runners were counted as one word (e.g., 1000)
 - d. All words in proposed words of persons and places were counted (e.g., Marie Klee is two words)
 - e. Initials which were part of a name were not counted as separate words
 - f. All words in the name of an organisation, too, etc., were counted (e.g., Consejo Superior de Investigaciones is four words)
 - g. Abbreviations were counted as one word (e.g., 1000 is one word)
2. In counting the number of sentences,
 - a. Sequences ending in periods, exclamation points, and question marks were regarded as units
 - b. Sequences ending in colons (e.g., 11 this world is this), parentheses, dashes, dashes and spaces were counted as units
 - c. When counting conversation, attributions to the speaker were counted as part of the sentences to which they were attached (e.g., 11 is four)

- d. When counting the number of *hard* words,
 - a. Noun's derivatives of superlatives (e.g., chichest, grandest) and noun's adverbs ending in -estly (e.g., exceedingly) were considered as appearing on the list if the parent form appear in p , chic, grand, rapid).
 - b. Feminine forms of nouns and adjectives were counted as appearing on the Easy Word List if the masculine form appear, and plants (e.g., affly) were counted as appearing if their singular form appear.
 - c. Verb forms do not appear on the Easy Word List. Accordingly, the verb were counted as appearing on the list if their infinitive form appear. Adjectives and past participles ending in -ed and -ing were counted if the present infinitive form appears on the Easy Word List (e.g., proceeding, under process).
- e. The names of persons and places were not counted as *hard* words.
- f. With names of organizations, laws, etc., only those words which do not appear on the Easy Word List were counted as *hard* words.
- g. Numbers (e.g., 10, 1000) were not counted as *hard* words.

- g. If a word that is not on the Easy Word List appeared several times in a 100-word sample, it was only counted twice as a difficult word.

The above procedures differed from the 1981 guidelines in that they were more detailed and did not count every repetition of a difficult word. A word not appearing on the Easy Word List was only counted twice as a difficult word so that this word would not have a disproportionate influence on the estimate of difficulty of the text.

The *ARI* and *ARI* of each of the samples in a text was averaged to obtain a mean *ARI* and mean *ARI* for the entire book. This was done for each book in each of the four levels reading series (see Figure 3-1). Then the grand mean (mean of the means) was obtained across each of the series at each grade level (see Table 3-6). In some cases a book in a series was considered by the publisher to be appropriate for more than one grade level. For example, "Agua" in the Landlions Series is considered by the publisher to be appropriate for either first grade or second grade, depending on the students in the reading program. In such cases, the same book was included in the calculation of the grand mean for each of the grade levels it was designated by the publisher.

The *ARI* and *ARI* obtained for each of the grade levels in the above calculations was used as an estimate of reading difficulty for students in Spanish. Each passage of the 1981 was written to fill this readability scale as closely as possible. This is discussed in more detail under the section entitled "Construction of the 1981."

A Cloze procedure was used to test if students could read under the 1981 passages in the same order as the readability formula. This

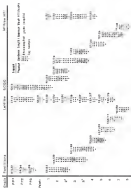
[illegible]

Table 3-6 Mean of the average sentence length and average word difficulty of all four Spanish-based reading series

Reading Level	Average Sentence Length	Average Word Difficulty
Pre-primer	6.25	0.873
Primer	6.79	0.886
1st	8.86	0.898
2nd	7.38	0.888
3rd	8.33	0.899
4th	10.83	0.949
5th	11.67	0.956
6th	12.87	0.966
7th	13.88	0.979
8th	15.58	0.983

is discussed under the section entitled "Validation of the Readability of the SRI."

Construction of the SRI

Passages were written for the SRI at levels of increasing difficulty. Passages for the following grade levels were written: pre-primer, primer, first, second, third, fourth, fifth, sixth, seventh, and eighth. The passages were narrative in style with topics that included everyday happenings, school stories, a sea adventure, and accounts of historical events.

The 30, and 60, as obtained in the calculation of grade level indicators, were used as a guide in writing the stories. The stories were written so that their difficulty level reached the readability score of mean 30, and mean 60 for each grade level as closely as possible. The readability columns for each passage is given in Table B-1. The same procedure for obtaining 30, and 60 was used for the SRI as was used when calculating the difficulty of the Spanish basal reading series.

Passage length gradually increased from approximately 100 words at the pre-primer and primer levels to 200 words at the third grade level. The fourth through eighth grade passages were between 200 and 300 words in length.

Passage length was an important consideration for the reliability of the instrument. Stinner (1960) found that a passage should be at least 100 words in length so that the chance errors in word counting statistics and the ratio of errors to total words is not distorted. The pre-primer and primer passages of the SRI were shorter

Table 2-1 Average sentence length, average word difficulty, and length of each passage in the LBS

Passage Level	Average Sentence Length	Average Word Difficulty	Length of Passage
Pre-primer	3.88	0.000	100
Primer	4.33	0.000	100
1st	5.13	0.010	144
2nd	7.80	0.030	170
3rd	9.89	0.030	204
4th ^a	10.00	0.040	200
5th ^a	11.55	0.040	204
6th	12.76	0.040	240
7th ^a	13.56	0.040	212
8th ^a	14.12	0.040	240

^aThe 4th and 5th and 7th and 8th passages were later switched in response to the results of the cloze sentence

and GLE's recommended length because it was decided that a passage length of over 100 words at these levels would substantially increase the testing time for students functioning at these levels.

The passages were typed on an IBM Selectric typewriter. The pre-prior through second grade passages were typed using an IBM Prowriter element (10 p12A, 14 p12B). This was done so that the print would be large and clear and appropriate for primary levels. The third through eighth grade passages were typed using an IBM Selectric element (10 p12A, 14 p12B).

Content-dependent questions were written to test the comprehension of each passage. The writing of the questions was kept as close as possible to the same difficulty level as the passages, according to the readability formula.

At pre-prior level there were six questions--four factual, one inferential, and one vocabulary. At prior level there were seven questions--four factual, one inferential, and two vocabulary. At first through eighth grade levels there were eight questions--four factual, two inferential and two vocabulary.

The passages and comprehension questions were written using vocabulary that was familiar to the Hispanic² population in the study. For example, in the first grade passage the word gusano was used for worm. Logical variations for this word in Spanish include gusano, chinche, and miridanga. However, gusano was the word that the Hispanic students in the study were familiar with.

²The majority of the students were Cuban, but there were also some Central Americans.

The passages and comprehension questions for the SRI were edited by a professional Spanish editor who was familiar with the varieties of Spanish spoken in Miami, Florida.

Teacher Workshop to Assess the SRI

A teacher workshop was conducted in Miami, Florida, in the fall of 1982 with 16 teachers who teach Spanish reading and language arts for native Spanish speakers in the Dade County public schools. A portion of the workshop was set aside for teachers to critique the SRI passages and comprehension questions.

The teachers were given a copy of the first version of the SRI to examine. This version had longer passages than the final version. There were also open short-answer questions. Each passage had 10 questions so that there would be a large pool of items from which some questions could be eliminated. The teachers were also given a questionnaire in which they were asked to evaluate each passage in the following areas as excellent, good, fair, or poor:

1. Appropriateness of content of the story for the designated grade level
2. Appropriateness of vocabulary for the designated grade level
3. Appropriateness of Spanish for the school population
4. Degree to which the language used in the passage reflects native Spanish usage
5. Appropriateness of the readability of the passage for the designated grade level

After reading each passage, the teachers were also asked to rate the comprehension questions for the passage as excellent, good, fair, or poor.

The teachers were divided into two groups. One group reviewed the pre-primer through third grade passages and the other group reviewed the fourth through eighth grade passages. The teachers were asked to rate the items according to their own classroom experience. All 511 teachers responded to every item.

The results of the teacher assessment of the IRI will be discussed in terms of the grade level designation of the passages as the topic of the workshop. At that time, the reputation of the passages was the same as in Appendix C, except that the order of the seventh and eighth grade passages was reversed.

The teacher assessment of the IRI was used as a guide to developing the IRI. It was not used as the final evaluation of the IRI.

Results of the teacher ratings. For Item 1, appropriateness of content of the story for the designated grade level, the pre-primer passage was rated good or fair 5 out of 7 times. The primer and first grade passages were rated fair or poor 5 out of 7 times. The second, third, and fourth grade passages were rated excellent or good 4 out of 5 times. The fifth grade passage also had two poor ratings. The fourth grade passage was rated excellent or good 7 out of 7 times. The sixth and eighth grade passages were rated excellent 4 out of 4 times. The seventh grade passage was rated excellent 5 out of 5 times.

The results of the teacher ratings of Item 3 indicated that all passages, except the primer, first, and fifth grade passages, had students

appropriate for the designated grade level. The pre- and first grade passages were rated low because teachers believed they were too long for the designated grade level. The teachers gave the fifth grade passage a poor rating because they thought the ending of the story was too far-fetched and obscure for children to understand it.

For item 2, appropriateness of vocabulary for the designated grade level, both the pre- and first grade passages were rated fair or good 3 out of 5 times. The first grade passage was rated good 4 out of 5 times. The first grade passage was rated good 3 out of 5 times. The second grade passage was rated excellent or good 3 out of 5 times. The third, sixth, seventh, and eighth grade passages were rated excellent or good 3 out of 5 times. The fourth grade passage was rated excellent or good 2 out of 5 times. The fifth grade passage was rated excellent or good 4 out of 5 times.

The results of the teacher ratings of item 2 indicated that all passages, except the pre- and first grade passages, contained vocabulary appropriate for the grade level. The pre- and first grade passages were rated low because the teachers thought that some of the words in these passages contained difficult words.

For item 3, appropriateness of Spanish vocabulary for the school population, the pre- and first, second, and fourth grade passages were rated good 3 out of 5 times. The first grade passage was rated good 3 out of 5 times. The second grade passage was rated excellent or good 3 out of 5 times. The third, sixth, seventh, and eighth grade passages were rated excellent or good 3 out of 5 times. The fifth grade passage was rated excellent or good 3 out of 5 times.

The results of the teacher ratings of Item 3 indicated that all the passages used appropriate Spanish vocabulary for the student population.

For Item 4, the degree to which the language used in the passages reflects native Spanish usage, the pre-primer, first, and fourth grade passages were rated excellent or good 7 out of 7 times. Both the primer and second grade passages were rated excellent or good 4 out of 5 times. The third, fifth, sixth, and eighth grade passages were rated excellent or good 5 out of 5 times. The seventh grade passage was rated excellent or good 4 out of 5 times.

The results of the teacher ratings of Item 4 indicated that the language in all the passages reflected native Spanish usage.

Their teachers rated item 5, appropriateness of the readability of the passage. The teachers were instructed to rate the difficulty level of a passage without the use of a readability formula. Both the pre-primer and primer passages were rated fair or poor 3 out of 5 times. The first grade passage was rated fair or poor 2 out of 3 times. Both the second and third grade passages were rated fair or excellent 3 out of 3 times. The fourth grade passage was rated excellent or good 5 out of 5 times. The fifth grade passage was rated poor 2 out of 4 times. The sixth grade passage was rated excellent 5 out of 5 times. The seventh grade passage was rated excellent 5 out of 5 times. The eighth grade passage was rated excellent or good 5 out of 5 times.

The results of the teacher ratings of Item 6 indicated that all passages, except the pre-primer, primer, first, and fifth grade

passages, and appropriate readability for the designated grade level. The pre-primer, primer, and first grade passages were rated low on readability because the passages were considered to be too long. Teachers commented that they did not believe students functioning at the pre-primer to first grade reading level could manage enough from the long passages to be able to answer the comprehension questions. Also, they believed some of the words in the passages contained difficult words. The fifth grade passage was rated low by the teachers as appropriate readability because they believed that the writing was too far beyond and above for students to understand.

Revisions of the stories were made where possible to accede with the criticisms of the teachers in the workshop. The pre-primer, primer, first, and second grade passages were shortened. However, they were not made as short as the teachers suggested because this would have negatively affected the reliability of the instrument. Some of the words in these four passages were replaced by words containing less difficult words.

Most of the factual comprehension questions for the different grade level passages were rated by teachers as fair, good, or excellent (see Appendix A). The factual questions that were rated as poor were given this rating because they were considered to be too difficult for students to answer. For example, 5 out of 7 teachers gave a poor rating to question 8 on the pre-primer level, and 2 out of 5 teachers gave a poor rating to question 8 on the primer level passage. Both of these questions require students to remember the sequence of facts in the story.

There were 21 out of 48 informational questions that were given poor ratings. Some of these questions were given poor ratings because they were considered too vague. For example, questions 10 and 11 on the eighth grade passage were both rated poor 3 out of 4 times. Question 10 asks what Spanish systems the Aztecs would have found strange. Question 11 asks what Aztec systems the Spanish would have found strange. The teachers thought that the wording of these two questions was too vague for students to understand what was being asked. Other informational questions were given poor ratings because they were considered to be too difficult for the level. For example, on the third grade passage question 10 asks what natural phenomenon is explained by the story. The teachers believed that this question demanded conceptual thought processes too high for the reading level.

There were 5 out of 19 vocabulary questions that were given poor ratings. Some of the questions were rated low because of the wording. For example, question 18 for the primer level had the words applied as a policy. The teachers suggested changing the wording to put policies into effect because the students would be more likely to understand what was meant by the question. Other vocabulary questions were given a poor rating because the teachers thought that the vocabulary items were too difficult. Question number 4 for the first grade passage is an example of this.

The comprehension questions that were rated low by the teachers because of their wording were rewritten so as to be more comprehensible to the students. The questions were then tested in a pilot study.

After the pilot study, the teacher ratings on the questions were compared to the results of the pilot study.

Using the IRI in a Pilot Study

A pilot study was conducted to test the revised IRI passages and comprehension questions. The IRI passages and questions had been revised, as stated above, in response to teacher comments in a workshop. At the teacher workshop, the pilot study version of the IRI had 12 questions per passage so that there would be a large pool of items from which four questions could be administered.

The IRI was administered individually to twenty-one students who had been selected for the pilot study on the basis of their reading score on the 1988-89 Connecticut State Identification Assessment (SISAP). The subjects were grouped according to reading clusters, as defined by Ford (1987). There were seven students chosen for the first reading cluster (pre-grade to second grade reading level), seven students chosen for the second reading cluster (third through fifth grade reading level) and seven students chosen for the third reading cluster (sixth through eighth grade reading level).

Each student in the pilot study was asked to read several passages orally and then answer the questions on what he had read. Each passage the student read was introduced by a brief statement about the story. The student read successive passages until he was a designated level on his consecutive passages of less than criterion. This was considered the Frustration level. Instructional level was the highest passage on which a student met the comprehension criterion. In

attained the instructional level. Arnold's (1979) revised comprehension criteria were used. These criteria vary according to reading cluster and are as follows: 85% for pre-primer through second grade passages, 80% for third through fifth grade passages, and 88% for passages of the sixth grade level and above.

In each cluster in the pilot study read, the monitor kept a record of the word recognition errors and the time taken to read each passage. The word recognition errors that were recorded as possible errors were omissions, insertions, substitutions, mispronunciation, transpositions, and omitted words. The student's word recognition score for each passage was recorded as the number of errors per 100 words. This was called the error ratio. The student's reading rate was recorded as the number of words read per minute.

A record was also kept of the student's responses to each comprehension question. The student's comprehension score for each passage was recorded as the percentage of questions answered correctly.

Qualitative records were kept of the student's responses to the comprehension questions. For example, if a student could not answer a question, the question was recorded to see if this could produce a response. In this case, the question was given two scores, one for the original wording of the question, and one for the new wording of the question.

The responses of the pilot subjects to the comprehension questions to the SRE were examined. In cases in which questions were re-written, the responses to the original question were compared to the

revised question. If the original question never produced a correct response and the revised version of the question sometimes produced a correct response, then the revised version of the question was considered for inclusion in the final version of the ILL. The responses of the pilot subjects to the comprehension questions were also compared to the teacher evaluations of the questions. If a question sometimes produced a correct response from the pilot subjects, and also was given a good evaluation by the teachers, then this gave strong support for including the question in the final version of the ILL.

The following changes were made to the ILL starting² and questions as a result of the pilot study and the teacher assessments:

1. The third and sixth grade passages were shortened because it took too much time for students to read them.
2. Subjects in the pilot study had difficulty following the story line of the sixth and seventh grade passages. As a result, several sentences in the first paragraph of these two passages were rewritten to provide students with more semantic cues. The readability index, however, was maintained for each story.
3. Two teachers gave the fifth grade passage a low rating because they found its writing was too far-fetched.

²The changes to the ILL are discussed in terms of the pilot level distribution of the passages in the time of the pilot study. It was also the sequencing of the passages was the same as in Appendix 1, except that the order of the seventh and eighth grade passages was reversed.

and closure. It was also found that the pilot subjects did not understand the ending. As a result, the ending to the story was rewritten to make it more concluding and easier to understand.

4. It was found that the content of the fifth grade passages was easier for the pilot subjects than the content of the fourth grade passages. As a result, the order of these two passages was reversed. Both passages were modified so as to equate their readability index.
5. Questions that were rated low by the teachers and were found to be too difficult for the pilot subjects were eliminated. A question was rated as too difficult if the subjects never answered it correctly. Examples of these questions are question 10 on the third grade passage, question 10 on the fourth grade passage, and questions 10 and 11 on the seventh grade passage (see Appendix A₂).
6. Questions that were found to be too easy for the pilot subjects were eliminated. A question was rated as too easy if the pilot subjects always answered it correctly. Examples of these questions are question 1 on the pre-primer passage, question 10 on the first grade passage, questions 1, 2, and 11 on the fourth grade passages (see Appendix A₂).

2. Questions were eliminated if they were rated low by the teachers and they were found to be ambiguous for the subjects in the pilot study. An example is question 11 on the third grade passage.
3. Questions were eliminated if they were found to be inappropriate for a story that was rewritten. Examples are questions 2 and 3 on the sixth grade passage, and question 3 on the fifth grade passage.
4. Questions were rewritten if it was found that students could only answer them when they were reworded. For example, if a word or phrase in a question was consistently found to be unknown to the subject in the pilot study the question was rewritten using a substituted word or phrase that was more familiar. Examples of questions that were reworded are question 8 on the seventh grade passage and questions 2 and 10 on the sixth grade passage.

Verification of the Reliability of the FRL with a Cloze Procedure

Cloze tests were used to verify the passages on the BRC according to difficulty. In effect, this procedure tested the reliability of the grade level estimates found for the verified BRC readability formula (Quartus et al., 1995) since the passages on the BRC were written using these estimates as a guide for passage difficulty. Research by Coleman (1985) and Lemayle (1988) indicates that cloze test scores on a

large number of passages covering a wide range of difficulty can be used as reference for formula development. When class scores have been used as a criterion, they have consistently provided higher predictive validity coefficients for readability formulas than have multiple-choice test scores (Miller, 1955, 1956).

Constructing the difficulty of material with class test scores has been found to be a valid procedure both in English (Taylor, 1962, Tompkins, 1962; Wilson, 1964) and in Spanish (Rodriguez Torquillo, 1970). Class results apply directly to the subjects tested and the materials employed. However, the results can be generalized "to the extent that larger defined populations of subjects and materials are adequately represented by the sample used" (Taylor, 1962, p. 20).

Construction of the Class Tests

Randomized mechanical class tests were constructed from the pre-printer through eighth grade passages of the FRL. In constructing each class passage, the first and last sentences were left intact. Starting with the second sentence, every fifth word was deleted and replaced with an unidentified item of 16 types. The place in the second sentence where the deletions began was randomly determined.

The length of each class passage and the number of items in each class passage were as follows: pre-printer had 100 words and 76 items, primer had 120 words and 76 items; first grade had 140 words and 76 items, second grade had 170 words and 82 items, third grade had 200 words and 82 items, fourth grade had 230 words and 44 items, fifth grade had 250 words and 47 items, sixth grade had 240 words and 42 items.

seventh grade had 177 words and 26 items, and eighth grade had 208 words and 35 items.

Administration of the Class Tests

Class tests were administered, under uniform conditions, to 100 students in each of the eight grades in Schools A and B.

Each subject took several class tests. Each class test was taken on a separate day. Table 1a1 shows the number of students who took the class tests in each grade level in each school and the different class passages taken at each grade level in each school.

The second graders in School A responded to three class passages—all three were below their grade level. The second graders in School B responded to four class passages—three below their grade level and one at their grade level. The third, fourth, and fifth graders in both schools responded to four class passages—two below their grade level, one at their grade level, and one above their grade level. The sixth graders in both schools responded to four passages—two below their grade level, one at their grade level and one above their grade level. Students responded to class passages at several different levels so that there would be a distribution of class papers for each student.

For each class test, the subjects were told to read the class passage through once before writing anything. They were then told to guess what the missing words were and write their guesses in the blanks.

Analysis and Scoring of the Class Tests

Each class test was scored according to exact word replication of the original text. Synonyms were not accepted because it is not

Table 3-6. Number and grade level of students who performed at state percent at different levels

Subject	Level of Class Passage	Grade Level of Students	Number of Students
A	Preschool Primer 1st	2nd	16
			25
			27
			27
	1st 2nd 3rd 4th	2nd	13
			27
			27
			27
	2nd 3rd 4th 5th	4th	20
			20
			20
			20
	3rd 4th 5th 6th	5th	20
			20
			20
			20
	4th 5th 6th 7th	6th	18
			17
			16
			16
B	Preschool Primer 1st 2nd	2nd	20
			20
			20
			20
	1st 2nd 3rd 4th	2nd	20
			27
			18
			20
	2nd 3rd 4th 5th	4th	20
			20
			20
			20
	3rd 4th 5th 6th	5th	20
			27
			20
			20

Table 2-1 Continued

School	Level of Class Passage	Grade Level of Students	Number of Students
	8th	4th	10
	9th		10
	10th		10
	11th		10

show that exact word replacement is more reliable and reflective in Spanish (Duchas, 1998). The number of correct replacements was divided by the total number of deletions in the passage to obtain a percentage correct score. An average class score was calculated for each passage by grade and by school. Pairwise comparisons of these average class scores were made. The assumption was that for two adjacent passages, the lower passage should have the higher average class score.

As shown in Table 3-8, the first and second grade passages, the fourth and fifth grade passages, and the seventh and eighth grade passages yielded average class scores suggestive of passage materials.¹

In order to judge whether the observed differences in these three pairs of class passages were significant, t-tests of the differences between class passage scores were used.

For the first and second grade class passages, a t-value of -1.108 was obtained with 102 degrees of freedom. For the fourth and fifth grade class passages, a t-value of -8.108 was obtained with 102 degrees of freedom. For the seventh and eighth grade class passages, a t-value of -8.084 was obtained with 99 degrees of freedom. Because all three t-tests were for large samples, the t-values were compared with a t-value of 2.58 at $p = 0.005$. The differences between the class passage scores for the fourth and fifth grade passages and the seventh and eighth grade passages are significant because their t-values exceeded

¹The results of the class tests are discussed in some of the grade level descriptions of the passages at the time that the class tests were administered. At that time the sequencing of the passages was the same as in Appendix 4, except that the order of the fourth and fifth grade passages was reversed and the order of the seventh and eighth grade passages was reversed. The class tests are in Appendix 5.

Table 3-3. Comparison of average cloze test scores by passage, grade, and school

Cloze Passage Comparison	Subject's Grade Level	School	
		A	B
Pre-primer	2nd	68 ± 25	52 ± 48
Primer-1st	2nd	53 ± 34	68 ± 19
1st-2nd	2nd	none	18 ± 20 ^a
	3rd	34 ± 42 ^a	19 ± 21 ^a
2nd-3rd	3rd	43 ± 38	29 ± 13
	4th	48 ± 27	58 ± 20
3rd-4th	3rd	28 ± 13	10 ± 11
	4th	22 ± 25	40 ± 25
4th-5th	4th	30 ± 40 ^a	29 ± 28 ^a
	5th	28 ± 37 ^a	25 ± 43 ^a
5th-6th	5th	23 ± 34	43 ± 28
	6th	28 ± 38	41 ± 38
6th-7th	6th	28 ± 33	28 ± 28
7th-8th	8th	23 ± 37 ^a	28 ± 41 ^a

^aThe direction of inequality suggests groups are reversed

ing correct) z -value of 1.66 ($p < 0.05$). The difference between the z -test t -value for the first and second grade passages was not significant.

On the basis of these t -test results, the sequencing of the fourth and fifth grade passages was reversed and the order of the seventh and eighth grade passages was reversed.

Administration of the ISRI

The ISRI was administered individually to 112 students from the Ontario group. These students had been selected from a population of 128 students on the basis of their grade equivalent scores on the CBCT (read). The subjects were grouped into three classifications according to their approximate reading levels. This step was taken to assure that there would be a representative sample of students with functional levels within the range of reading levels represented by the three reading clusters (grouped to second grade passage level, third to fifth grade passage level, and sixth to eighth grade passage level).

Each student in the Ontario group was asked to read several passages on the ISRI orally and then answer the questions on what he had read. Each passage the student read was introduced by a brief statement about the story. The student read successive passages until he gave a comprehension score on two consecutive passages of two like emotions. This was considered the Functional level. Instructional level was the highest passage on which a student met the comprehension criterion. Russell's (1976) revised comprehension criteria, which vary

according to reading abilities, were used. These criteria are 800 for pre-1st-grade through second-grade passages, 900 for 3rd- through fifth-grade passages, and 950 for passages at the sixth-grade level and above.

As each student from the Criteria Group read, the examiner kept a record of his word-recognition errors and the time taken to read each passage. The word-recognition errors that were recorded as "correctable" errors were omissions, insertions, substitutions, mispronunciations, transpositions, and unknown words. The student's word-recognition score for each passage was recorded as the number of errors per 100 words. This was called the error rate. The student's reading rate was recorded as the number of words read per minute.

A record was also kept of the student's responses to each comprehension question. If the student did not understand a question it was repeated once. If the student gave an incomplete answer to a question he was asked to give more information. Half credit was given if the student provided part of an answer. The student's comprehension score for each passage was recorded as the percentage of questions answered correctly.

The above five questions of Chapter III described the development of the SRI, the utilization of the results of the SRI with a class procedure, and the contribution of the SRI to the Criteria Group. The next two sections will describe the compilation of the criteria for the SRI and the analysis of the results.

Criteria for the SRS

A major objective of this study was to determine the word recognition, reading rate, and error rate scoring criteria for the SRS. An essential step in this process was the establishment of each subject's instructional level. In its strictest sense, each passage was judged as to whether or not the student meeting that passage achieved a comprehension score greater than or equal to the comprehension criteria for that passage. Fowell's (1971) revised comprehension criteria of 60 for pre-primer through second grade, 68 for third through fifth grade, and 65 for sixth through eighth grade passage levels were chosen for use in the study. Applicable passages were those which were greater than or equal to the criteria for comprehension. Inoperative passages were those which were less than the criteria for comprehension. The best applicable passage which immediately preceded the last reading free-ration level passage was the instructional level passage.

Having established the instructional level passage, the criteria for word recognition errors on the SRS were calculated as follows:

1. The error rate for each applicable passage was calculated by dividing the total number of word recognition errors in a passage by the total number of words in that passage.
2. For each subject in the CRITICUS Group,¹ the applicable passages were examined to find the highest error

¹Due to loss of the original T22 subjects were eliminated from the study. This was because the experimental levels of frustration were not sufficient for these subjects.

- c) ratio for that subject. This error ratio was
- d) recorded as the subject's error ratio and distributed to that subject's instructional level. For example, suppose a subject read the second through fifth grade passages on the SRS. According to the protocol, the last two passages read would be designated because they were frustration level passages. This leaves the second and third grade passages to be examined. If the subject passed the second grade passage according to the comprehension criterion for second grade, the error ratio made on the second grade passage would be compared with the error ratio made on the third grade passage. Whichever error ratio was the highest would be called the subject's error ratio for the third grade instructional level passage.
- e) At each instructional passage level, the mean tolerable error ratio was calculated.
 - f) Continuing with the above example, the subject's tolerable error ratio for the third grade instructional level passage would be grouped with all the other tolerable error ratios for subjects whose instructional level was third grade.
 - g) For each cluster, the grand mean of the tolerable error ratios was calculated. This was done by grouping the tolerable error ratios for the pre-primer through

second grade instructional levels together as Cluster 1. The Columbia error rates for the third through fifth grade instructional levels was grouped together as Cluster 2. The remaining Columbia error rates formed Cluster 3.

The nine Columbia error rates at each cluster were considered to be the word recognition scoring criteria for the SRS.

Using the same sample as above, the subject's Columbia error rate would be added to the Columbia error rates of subjects with either third, fourth, or fifth grade instructional levels. All their Columbia error rates would be averaged and the resulting error rate would be the word recognition scoring criteria for Cluster 2.

This averaging process was repeated for the determination of the reading rate scoring criteria and for the calculation of the error rate scoring criteria, with the following replacements:

- a) Words per minute was used to determine the reading rate scoring criteria. Words per minute was calculated by dividing the number of words in a passage by the number of minutes taken to read the passage. The 1,000 words per minute was used for determining the Columbia reading rate. Therefore, the reading rate criteria reflect how slowly subjects read and still met the comprehension criteria.

- (c) Errors per minute was used to determine the error rate scoring criteria. Errors per minute was calculated by dividing the total number of errors in a passage by the number of minutes taken to read the passage. The highest errors per minute was used for determining the tolerance error rate. Therefore, the error rate criteria reflect how many errors per minute students would make and still meet the comprehension criteria.

The mean tolerance words per minute at each cluster level was considered to be the reading rate scoring criteria for the ELL. The mean tolerance errors per minute at each cluster level was considered to be the error rate scoring criteria for the ELL.

The data on error rates were re-analyzed so as to permit comparison with the instructional level criteria in English suggested by Items 2080 and Item 1100. In order to make this comparison, the data on error rates were re-analyzed twice, using constant comprehension criteria across all passages. The first re-analysis was done with the comprehension criterion set at 75%. This matched Item 1100's criterion for Instructional level. The second re-analysis was done with the comprehension criterion set at 70%. This matched Item 2080's comprehension criterion for Instructional level.

Data Analysis

The data analysis for the hypotheses tested in this study is described in six different sections: (a) the level analysis of the error

ratio; (3) split plot analysis of variance of passage understanding and student grade level; (4) correlations of the error ratio and words per minute at each passage level; (5) correlations of the words per minute and comprehension at each passage level; (6) stepwise regression of words per minute, error ratio, and errors per minute on comprehension; (7) stepwise regression of automatic words per minute, error ratio, and errors per minute on instructional level.

Final Analysis of the Error Ratio

This section concerns the question of whether or not there was a trend in the error ratio means when instructional level was calculated using 40% as the criterion for comprehension across all passage levels.

The question was posed in terms of the number of errors students made while still maintaining a level of comprehension of 40% or better of interest was whether or not there was more error detected for understanding with easier material than there was with more difficult material. Powell (1975) had found an inverse relationship between error ratio and passage levels in an 80% in English. Three hypotheses were tested:

Hypothesis 1

There is no relationship between the number of errors students are able to still meet 40%

¹Thirty percent was chosen for the comprehension criterion to avoid skewing the data in favor of results of various criteria were used. Fifty percent represents the mean of the normally criterion. This criterion was chosen so that the data for only the subjects were level. These subjects failed to meet the 40% comprehension criterion many of the passages they read.

amount of compensation, and the difficulty level of the passages.

Hypothesis II

The trend of the error rates seems to have linear.

Hypothesis III

There are no higher order trend components in the error rates trend.

In order to test the relationship between error rates and passage level, a trend analysis as described by Kirk (1983) was performed. This analysis revealed that the time of least fit is established for the error rates and passage level at the instructional level of most students.

In order to test Hypotheses II and III, the data were tested for linearity and departure from linearity using analyses described by Kirk (1983).

Reading Reliability and Student's Grade Level

An objective of the study was to determine if the reliability of the passages rather than the grade of the student accounted for the errors produced on the ETC.

Research by Shallice (1981), Graham (1982), and Hunt (1983) on reading performance in English suggests that the nature of a student's errors is due primarily to the readability level of the material, not the age or grade of the reader.

The question was investigated using the analysis of variance with the plot design. The data were grouped into four sections or split plot design. The sections were constructed with the data on subjects from successive grade levels who had performed on the same ten consecutive passages. The first factor was passage level, the group factor was grade level. Each section was composed of ten trials and between ten and fifteen groups. Several null values were used. For each split plot design, the error values of each subject on each passage were used in the analysis.

For each split plot design, three hypotheses were tested. Each set of hypotheses was stated as follows:

1. There is no significant difference in the error values made on the 100 trials between students in different grade levels.
2. There is no significant difference in error values between the successive passage levels.
3. The difference between the successive passage levels and the same for students in different grade levels.

There were a total of 18 hypotheses tested concerning the readability of the passage and the grade level of the student.

Relationship of Word Recognition Errors and Reading Rate

Studies on reading in English have found word recognition errors and reading rate to be inversely correlated (Lamotte, 1939; Hunt, 1955). Wilson (1947) found the highest correlations between reading rate and

and reading accuracy at the 1971 and second grade when the same reading rate was also the lowest. One of the objectives of the study was to explore the relationship between these two factors to test whether the same type of relationship exists in Spanish. The following hypothesis was tested:

Hypothesis III

There is no relationship between reading

rate and word recognition scores in the 5th

This hypothesis was tested using the Pearson Product Moment Correlation. Correlations between words per minute and error rates were calculated for each passage level. The slope, intercept, and standard error for each passage level were also calculated. The regression line for each passage was plotted to determine whether the relationship between words per minute and error rates was passage dependent.

Relationship Between Reading Rate and Comprehension

The relationship between reading rate and comprehension has been found to vary according to the type of material used, the type of the reader, the purpose of the reader, and the way in which the two factors are measured (Stanley, 1965; Harris and Sipay, 1970). There appears to be a stronger relationship (higher rate and comprehension) in the primary grades (Harris and Sipay, 1974). Tucker (1962) reported progressively lower correlations between rate and comprehension as the difficulty of the materials was increased.

The objective of the study was to determine the relationship between rate and comprehension at each of the passage levels on the 5th. Accordingly, the following hypothesis was stated:

Hypothesis VIII

There is no relationship between reading rate and comprehension at each of the passage levels in the IRI.

This hypothesis was tested using the Pearson Product Moment Correlation. Correlations between words per minute and comprehension percentages were calculated for each passage level. The slope, intercept, and standard error for each passage level were also calculated. The regression line for each passage was plotted to determine whether the relationship between words per minute and comprehension percentages was passage dependent.

Interpretation of the Predictors of Comprehension for the IRI

Word recognition, reading rate, and comprehension all appear to be related to each other, particularly at the primary grade levels (Orbits and Stars, IRI). However, the exact nature of the relationship of these three factors to oral reading ability remains to be clearly defined. Therefore, it was an objective of the study to determine if word recognition, reading rate, and error rate were predictive of comprehension in the IRI. The following hypothesis was stated:

Hypothesis VIII

There is no relationship between comprehension at the impression level and any of the following:
error rates, words per minute, and errors per slogan.

This hypothesis was tested with a stepwise regression analysis to determine the model which best predicted comprehension in the IRI.

Determination of the Instructional Level of Instructional Level on the SRI

An objective of the study was to determine if word recognition, errors, reading rate, and error rate aided in the prediction of instructional level. This was important since the major objective of the study was to determine the word recognition, reading rate, and error rate scoring criteria for the SRI.

Instructional level on the SRI was determined for 127¹ students by using Howell's (1938) variable comprehension criteria of 800 for passages pre-grade to second, 825 for passages third to fifth, and 850 for passages sixth to eighth. No other variables were used to determine instructional level for these students who were tested.

The following hypothesis was stated:

Hypothesis 1.1:

There is no relationship between instructional level on the SRI and any of the following: percentage error rates, tolerance words per minute and tolerance errors per minute.

Tolerance error rates was used in the analysis since this value represented the highest number of errors each student made, while still meeting the comprehension criteria for instructional level.

Tolerance words per minute was used in the analysis since this value represented the lowest words per minute a student achieved, while still meeting the comprehension criteria for instructional level.

¹One or two of the original 144 subjects were eliminated from the study. This was because two appropriate levels of frustration were not obtained for these subjects.

Tikhanits errors per minute and correct word value ratings tested the highest errors per minute a student achieved, while still meeting the comprehension criteria for instructional level.

The hypothesis was tested with a stepwise regression analysis to determine the model which best predicted instructional level in the LLE.

The reports of the findings of the study and a discussion of these findings are presented in Chapter IV.

CHAPTER 10 FINDINGS

The main purpose of this study was to determine the word recognition, reading rate, and error rate reading criteria for the DSM. Another purpose of the study was to test the hypotheses regarding students' reading performance on the DSM. These hypotheses concerned the trend in the error ratios across passage levels and the relationship among various aspects of reading including word recognition errors, reading rate, error ratio, comprehension, passage readability, and student's grade level.

This chapter presents the findings of the study and the results of the significance testing. The chapter has nine subsections: (1) a report of the calculated criteria for the DSM, (2) a comparison of error ratios with the DSM with better (1944) and Fowler's (1970) criteria, (3) a report of the trend analysis of the error ratio means, (4) tests of the relationship between passage readability and student's grade level, (5) relationship between error ratios and words per minute, (6) relationship between words per minute and comprehension, (7) determination of the predictors of comprehension for the DSM, (8) determination of the predictors of instructional level for the DSM, (9) discussion of the findings.

Criteria for the Kentucky Instructional Reading Inventory

Instructional reading inventories are used to place students at the appropriate level in reading material. To achieve this goal, internal

reading inventories require criteria for assessing individual performance on reading passages of progressive difficulty. One method of selecting criteria for informal reading inventories is to analyze the performance of a group of students to determine reliable levels. This study used the same method to develop its criteria for three types of performance: word recognition errors, reading rate, and error rate.

The DRI was individually administered to 100 students. Instructional levels for these students were determined by using a variable comprehension criterion, suggested by Powell (1970), of 50% for passages pre-primer to second, 60% for passages third to fifth, and 65% for passages sixth to eighth.

Each passage read by a student was judged as to whether or not it met the comprehension criterion. Those passages which met or exceeded criteria were called acceptable. The highest acceptable passage followed by the subsequent non-acceptable description level passages was designated the instructional level passage. Each passage was then examined for word recognition errors (i.e., errors per 100 reading words or error ratio), words per minute, and errors per minute. Each of these variables will be discussed separately in the report of results.

It should be noted that the mean informal level represents the average student performance across acceptable passages for the group of students who have achieved the same instructional level. The mean informal level is not the average performance for a particular passage. Also, it is not equivalent with the average performance at the instructional level.

To determine the criteria for the word recognition scores, the copyable passages read by each student were scanned for the passages with the highest error rates. This error rate was recorded as the tolerance error rate for each subject's instructional level.

As each passage level, the word tolerance error rates for that level was calculated.

Table 1-1 compares the word tolerance error rates for each passage and for each reading cluster in the LRS. Reading clusters were defined as passages in second grade, third to fifth grade, and sixth to eighth grade level passages.

The mean of each cluster represents the mean of the tolerance error rates of the passages in that cluster.

The word tolerance error rates for Cluster 1 was 10.8. The range of the word tolerance error rates was 8.8 to 12.1.

The word tolerance error rates for Cluster 2 was 5.5. The range of the word tolerance error rates was 4.7 to 6.8.

The word tolerance error rates for Cluster 3 was 3.4. The range of the word tolerance error rates was 2.3 to 5.7.

An examination of the word tolerance error rates at each of the three reading clusters shows a gradual decrease in error rates across clusters.

To determine the criteria for words per minute, the copyable passages read by each student were scanned for the passage with the lowest words per minute. This lowest reading rate was recorded as the tolerance words per minute for that subject's instructional level passage.

Table 6.1 The mean tolerable values, points per minute and errors per minute for passage length and standard by the MII

Category	Message	N	Mean Tolerable Error Ratio	Mean Tolerable 80%	Mean Tolerable Errors per Minute
1	50 ^a	1	0	94.4	0
	8	10	15.1	93.6	0.0
	1	10	8.0	90.3	0.0
	8	10	15.2	93.8	0.0
Means			10.7	93.3	0.0
2	8	10	0.0	93.0	0.0
	4	2	0.0	93.0	0.0
	8	10	0.0	90.0	0.0
Means			0.0	92.0	0.0
3	8	5	0.0	90.4	0.0
	8	10	0.0	90.1	0.0
	8	5	0.0	91.6	0.0
Means			0.0	90.4	0.0

^aOnly one subject

At each passage level, the mean latencies (words per minute) for that level was calculated.

Tables 4-1 presents the mean latencies (words per minute) for each passage and for each reading cluster on the SRI.

The mean of each cluster represents the mean of the latencies (words per minute) of the passages in that cluster.

The mean latencies (words per minute) for Cluster 1 was 63.4. The range of the mean latencies (words per minute) was 33.4 to 84.4.

The mean latencies (words per minute) for Cluster 2 was 54.3. The range of the mean latencies (words per minute) was 37.3 to 80.3.

The mean latencies (words per minute) for Cluster 3 was 48.8. The range of the mean latencies (words per minute) was 31.4 to 72.8.

An examination of the mean latencies (words per minute) at each of the three reading cluster shows an increase in the words per minute across clusters.

In determining the criteria for errors per minute, the appropriate passages read by each student were selected for the passages with the highest errors per minute. This highest errors per minute was recorded as the latencies errors per minute for that subject's instructional level passage.

At each passage level, the mean latencies errors per minute for that level was calculated.

Tables 4-1 presents the mean latencies errors per minute for each passage and for each reading cluster on the SRI.

The mean of each cluster represents the mean of the latencies errors per minute of the passages in that cluster.

The mean tolerable errors per minute for Cluster 1 was 3.7. The range of the mean tolerable errors per minute was 3.0 to 5.0.

The mean tolerable errors per minute for Cluster 2 was 3.2. The range of the mean tolerable errors per minute was 3.0 to 5.0.

The mean tolerable errors per minute for Cluster 3 was 3.0. The range of the mean tolerable errors per minute was 3.0 to 4.0.

An examination of the mean tolerable errors per minute shows that Cluster 1 and 2 are the same and that Cluster 3 is slightly less. It appears that there was a shift in the number of errors per minute that could be made while still maintaining comprehension across passages.

Comparison of Error Rates Based on the LLI and Brown and Frauli's Criteria

In order to compare the results on the LLI with the recommended error rates criteria of Brown (1960) and Frauli (1966), the data on error rates were reanalyzed again. The analysis was the same as the previously described analysis of the tolerable error rates with the exception that the comprehension criteria were held constant. The first reanalysis was done with the comprehension criterion set at 70%. This matched Brown's comprehension criterion. The second reanalysis was done with the comprehension criterion set at 80%. This matched Frauli's comprehension criterion.

Brown (1960) recommended an error rate of 1 error per 100 words ($\phi = .100$ error LLI word recognition) for the individualized level. When comprehension was held at 70% across all passages on the LLI, the mean tolerable error rates at each cluster were as follows:

1.25 for Cluster 1; 1.51 for Cluster 2; and 1.32 for Cluster 3. The mean tolerable error rates at all three clusters were close to Satter's criterion.

Quatt (1982) recommended criteria for error rates which varied with passage level. His criteria were based on research done on 129 students. For the first and second grade passages his error rate criterion was 15 (i.e., 600 minus 585 word recognition). For the third through fifth grade passages his error rate criterion was 5. For the sixth grade passage his criterion was 4. All of these criteria were for the instructional level. When comprehension was held at 80% across all passages in the LRI, the mean tolerable error rates at each cluster were as follows: 1.24 for Cluster 1; 1.45 for Cluster 2; and 1.26 for Cluster 3. These mean tolerable error rates were consistently lower than what would have been his research on reading performance in informal reading inventories in English. This meant that the Spanish-speaking students made fewer word recognition errors on the LRI than could have been expected from Freuell's word recognition criteria.

Test Analysis of the Error Rates

This section addresses the question of whether there was a trend in the error rate means across passage levels. The error rates at the instructional levels were used. The instructional levels were determined by a comprehension criterion of 80%.¹

¹Many percent was chosen for the comprehension criterion to avoid making the data which could result if multiple definitions were used. Study provided evidence on the use of the multiple criterion. This criterion was low enough so that the data for only six subjects were lost. These subjects failed to meet the 80% comprehension criterion on any of the passages they read.

This question implied the following three null hypotheses:

Hypothesis I

There is no relationship between the number of errors students can make and (1) the ISI criteria as comprehension, and the difficulty level of the passages.

Hypothesis II

The trend of the error ratio means is non-linear.

Hypothesis III

There are no higher-order trend components in the error ratio means.

Table 4.2 presents the one-way analysis of variance for the error ratio means. The mean error ratios, when the comprehension criterion was ISI, were .0.0 at pre-primer, .10.2 at primer, .4.8 at first, .76.8 at second, .9.1 at third, .8.9 at fourth, .6.9 at fifth, .5.3 at sixth, .3.9 at seventh, and .2.8 at eighth. The calculated F ratio for the between group mean was 3.125. The critical F ratio was 8.01 at the 0.01 level of significance. The computed F value was greater than the critical F , therefore, hypothesis I was rejected.

The calculated F ratio for linearity was 34.834. The critical F ratio was 8.01 at the 0.01 level of significance. The computed F value was greater than the critical F , therefore, hypothesis II was rejected.

The calculated F ratio for departure from linearity was .081. The critical F ratio was 3.08 at the 0.05 level of significance. The

Table 1-2. Analysis of variance for trends in error ratio means.

Source of Variance	Mean Square	Degrees of Freedom	F Ratio
Release group	128.18	8	3.129
Locality	167.78	1	39.838 ^a
Deporters from Locality	1.04	8	0.261
Wtata group	28.41	88	

^ap < .01

computed F value was less than the critical F_1 . Therefore, hypothesis III was not rejected.

These results indicated a linear trend in the error ratios across all passage levels. The line of best fit to the means of the error ratios yielded a slope of -0.0010 and an intercept of 0.100 . This means that the error ratios decreased as the difficulty of the passages increased.

Passage Lengths and Student's Grade Level

In this section, hypotheses IV through VII sought to determine if the readability of the passages rather than the grade of the student accounted for the errors produced on the SRI. These hypotheses were tested using the split plot design.

For the first and second grade passage levels, the following hypotheses were stated:

Hypothesis IV

There is no significant difference in the means of the error ratios of second, third, and fourth graders on the SRI.

Hypothesis V

There is no significant difference in the means of the error ratios between the first and second grade passage levels on the SRI.

Experiment 3: 43

The difference between first and second grade passage levels is the same for second, third, and fourth graders.

Table 4-2 shows the cell means, passage means, grade level means, and frequencies and standard deviations for the split plot analysis of variance.

The passage level mean was 8.66 for the first grade passage and 11.33 for the second grade passage. The grade level mean was 32.33 for the second graders, 31.66 for the third graders, and 30.00 for the fourth graders. The overall mean was 10.50.

Table 4-3 provides the mean square, degrees of freedom, *F* value, and significance level for the tests of hypotheses II, 3, and 4.

In Table 4-3 the computed *F* value for student's grade level was 4.55. The critical *F* value was 5.34 at the 0.01 level of significance. The computed *F* was smaller than the critical *F*. No significant difference was found between the students in second, third, and fourth grades in their writing skills on the SRI. Therefore, hypothesis II was not rejected.

The computed *F* value for passage level was 42.88. The critical *F* value was 2.50 at the 0.01 level of significance. The computed *F* was greater than the critical *F*. The analysis revealed a significant difference at the 0.01 level in the error ratio mean between the first and second grade passage levels. Therefore, hypothesis 3 was rejected.

The computed *F* value for grade by passage level was 4.41. The critical *F* value was 5.34 at the 0.01 level of significance. The

Table 4-3 GATT means and standard deviations for 1st and 2nd grade passage levels and 1st, 2nd, and 4th grades

GATT Means				
Passage Level	Grade Level of Students			Passage Level Means
	1st	2nd	4th	
1st	12.80	8.52	6.48	9.63
2nd	20.76	12.43	14.38	17.52
Grade Level Means	22.33	8.54	20.86	10.82
GATT Frequencies	71	19	13	20

GATT Standard Deviations				
Passage Level	Grade Level of Students			
	1st	2nd	4th	
1st	13.88	3.67	7.38	
2nd	18.67	6.60	12.48	

Table 4-4. Split plot analysis of variance for 2nd, 3rd, and 4th graders and 1st and 2nd grade passage levels.

Source of variance	Mean Square	Degrees of Freedom	F ratio
Student's grade level	109.50	2	4.63
Error	23.66	36	
Passage level	1152.12	1	46.34 ^a
Grade X passage level	12.88	2	0.51
Error	26.57	34	

^a $p < .01$

computed F was smaller than the critical F . The analysis revealed no significant interaction between grade level and passage level. Therefore, hypothesis H1 was not rejected.

The significance of the passage rather than the grade of the student accounted for the difference in the error ratio means of second, third, and fourth graders on the first and second grade level passages on the SAT. The mean of the second grade passage was greater than the mean of the first grade passage. This result suggests that the second grade passage is more difficult than the first grade passage.

For the third and fourth grade passages, the following hypothesis was not rejected:

Hypothesis H1:

There is no significant difference in the means of the error ratios of third, fourth, and fifth graders on the SAT.

Hypothesis H2:

There is no significant difference in the means of the error ratios between the third and fourth grade passage levels on the SAT.

Hypothesis H3:

The difference between third and fourth grade passage levels is the same for third, fourth, and fifth graders.

Table 4-6 shows the cell means, passage level means, grade level means, cell frequencies, and standard deviation for the SPSS print outputs of variance

Table 4-5. GFI scores and GFI standard deviations for 2nd and 4th grade passage levels and 2nd, 4th, and 6th grades.

GFI Means				
Passage Level	Grade Level of Students			Passage Level Means
	2nd	4th	6th	
2nd	11.14	10.43	6.85	9.19
4th	12.04	11.87	8.42	10.89
Grade Level Means	11.54	10.75	8.02	9.28
GFI Frequencies	12	10	8	30

GFI Standard Deviations				
Passage Level	Grade Level of Students			
	2nd	4th	6th	
2nd	8.70	7.38	3.81	
4th	10.46	7.06	6.36	

The passage level mean for the third grade passage level was 1.36. The passage level mean for the fourth grade passage level was 10.23.

The grade level mean was 12.24 for third grade, 10.23 for fourth grade, and 1.23 for fifth grade. The overall mean was 4.33.

Table 4-4 provided the mean square, degree of freedom, *F* ratio, and significance level for the levels of hypothesis VII, VIII, and IX.

In Table 4-4 the computed *F* ratio for student's grade level was 1.26. The critical *F* ratio was 4.33 at the 0.05 level of significance. The computed *F* was smaller than the critical *F*. No significant difference was found between the students in third, fourth, and fifth grades in error ratio scores made on the BSE. Therefore, hypothesis VII was not rejected.

The computed *F* ratio for passage level was 4.18. The critical *F* ratio was 4.33 at the 0.05 level of significance. The computed *F* was greater than the critical *F*. The analysis revealed a significant difference at the 0.05 level in the error ratio means between the third and fourth grade passage levels. Therefore, hypothesis VIII was rejected.

The computed *F* ratio for grade by passage level was 1.71. The critical *F* ratio was 3.33 at the 0.05 level of significance. The computed *F* was smaller than the critical *F*. The analysis revealed no significant interaction between grade and passage level. Therefore, hypothesis IX was not rejected.

The reliability of the passage rather than the grade of the student accounted for the difference in the error ratio means of third, fourth, and fifth graders on the third and fourth grade passages on the

Table 4-4. Split plot analysis of variance for 200, 400, and 600 grams and 2nd and 3rd grade passage levels

Source of Variance	Sum Squares	Degrees of Freedom	F Ratio
Stratified by grade level	252.88	1	0.28
Error	188.88	28	
Passage level	40.65	1	4.58 ^a
Grade X passage level	10.54	1	1.21
Error	1.56	28	

^ap < .05

H₀: The mean of the fourth grade passage was greater than the mean of the third grade passage. This result suggests that the fourth grade passage is more difficult than the third grade passage.

For the fifth and sixth grade passage levels, the following hypotheses were stated:

Hypothesis 1:

There is no significant difference in the means of the error scores of fifth and sixth graders at the 50th.

Hypothesis 2:

There is no significant difference in the means of the error scores between the fifth and sixth grade passage levels at the 50th.

Hypothesis 3:

The difference between the fifth and sixth grade passage levels at the 50th is the same for fifth and sixth graders.

Table 4-7 shows the cell means, passage level means, grade level means, cell frequencies and standard deviations for the split plot analysis of variance.

The passage level mean was 3.28 for the fifth grade passage level and 4.26 for the sixth grade passage level. The grade level mean was 4.16 for fifth grade and 3.21 for sixth grade. The error's mean was 3.32.

Table 4-8 provides the mean squares, degrees of freedom, F ratio, and significance level for the tests of hypotheses 1, 2, 3.

Table 4-2 Cell means and cell standard deviations for SD and RD grade passage items and MA and RA grade items

Cell Means			
Passage Level	Grade Level of Students		Passage Level Mean
	SD	RD	
SD	3.34	3.70	3.52
RD	3.50	3.87	4.18
Grade Level Means	3.42	3.78	3.75
Cell Frequencies	20	20	40

Cell Standard Deviations			
Passage Level	Grade Level of Students		
	SD	RD	
SD	1.08	1.01	
RD	1.70	1.50	

Table 4-8. Split plot analysis of variance for 80s and 80s printers and 80s and 80s grade passage levels

Source of Variation	Sum Squares	Degrees of Freedom	F Ratio
Printer's grade level	18.87	1	1.02
Error	18.84	48	
Passage level	26.85	1	11.32 ^a
Grade X passage level	4.48	1	1.98
Error	9.27	48	

^a $p < .01$

In Table 4-4, the computed F ratio for student's grade level was 1.22. The critical F ratio was 7.22 at the 0.01 level of significance. The computed F was less than the critical F . No significant difference was found between the students for fifth and sixth grades in error ratio scores on the SDC. Therefore, Hypothesis I was not rejected.

The computed F ratio for passage level was 11.82. The critical F ratio was 7.22 at the 0.01 level of significance. The computed F was greater than the critical F . The analysis revealed a significant difference at the 0.01 level in the error ratio means between the fifth and sixth grade passage levels. Therefore, Hypothesis II was rejected.

The computed F ratio for grade by passage level was 1.48. The critical F ratio was 7.22 at the 0.01 level of significance. The computed F was less than the critical F . The analysis revealed no significant interaction between grade level and passage level. Therefore, Hypothesis III was not rejected.

The readability of the passage rather than the grade of the student accounted for the difference in the error ratio means of fifth and sixth grades on the fifth and sixth grade passages on the SDC. The mean of the sixth grade passage was greater than the mean of the fifth grade passage. This result suggests that the sixth grade passage is more difficult than the fifth grade passage.

For the seventh and eighth grade passage levels, the following hypotheses were stated:

Hypothesis III:

There is no significant difference in the mean of the error ratios of fifth and sixth grades in the 2001.

Hypothesis IV:

There is no significant difference in the mean of the error ratios between the seventh and eighth grade passage levels in the 2001.

Hypothesis V:

The difference between the seventh and eighth grade passage levels in the 2001 is the same for fifth and sixth grades.

Table 4-8 shows the cell means, passage level means, grade level means, cell frequencies, and standard deviations for the split plot analysis of variance.

The passage level mean for the seventh grade passage level was 3.22. The passage level mean for the eighth grade passage level was 3.04. The grade level mean was 3.10 for fifth grade and 3.08 for sixth grade. The overall mean was 3.03.

Table 4-9 provides the mean square, degree of freedom, *F* ratio, and significance level for the tests of Hypotheses III, IV, and V.

In Table 4-9 the computed *F* ratio for student's grade level was 0.02. The critical *F* ratio was 3.28 at the 0.01 level of significance. The computed *F* was less than the critical *F*. No significant difference was found between the students in fifth and sixth grades in error ratios made in the 2001. Therefore, Hypothesis III was not rejected.

Table 4-3. Cell means and cell standard deviations for 7th and 8th grade passage lengths and 8th and 9th grades

Cell Means			
Passage Level	Grade Level of Students		Passage Level Percent
	8th	9th	
7th	1.11	1.09	1.33
8th	1.44	1.89	1.54
Grade Level Means	1.12	1.29	1.43
Cell Standard Deviations	19	20	41

Cell Standard Deviations		
Passage Level	Grade Level of Students	
	8th	9th
7th	2.54	1.41
8th	2.29	1.55

Table 4-12 Split-plot analysis of variance for 80A and 80B genotypes and 70A and 80B genotypes passage levels

Source of Variation	Mean Square	Degrees of Freedom	F Value
Experiment's genotype (area)	14.46	1	0.03
Error	11.03	40	
Passage level	6.03	1	0.07
Genotype X passage level	6.09	1	0.06
Error	3.30	40	

The computed F ratio for passage level was 3.75. The critical F ratio was 3.88 at the 0.05 level of significance. The computed F was less than the critical F . The analysis did not reveal a significant difference in the error ratio means between the seventh and eighth grade passage levels. Therefore, hypothesis 2B was not rejected.

The computed F ratio for grade by passage level was 0.11. The critical F ratio was 3.88 at the 0.05 level of significance. The computed F was less than the critical F . The analysis revealed no significant interaction between grade level and passage level. Therefore, hypothesis 2C was not rejected.

It was not possible to determine differences in the error ratio means of fifth and sixth grades on the 100 seventh and eighth grade passages for either grade level or passage level because hypotheses 2D, 2E, and 2F were not rejected. The results might indicate that the readability of the seventh and eighth grade passages was not sufficiently different.

Except for the seventh and eighth grade passages, the readability of the passage level rather than the grade of the student accounted for the difference in the error ratio means of students who performed on the 100. These results suggest that the 100 word recognition criterion should vary with the passage level rather than the student's grade level.

The difference in the passage level means was consistently in the direction of the higher level passage. All the differences between passages were significant except for the seventh and eighth grade passages. These results suggest that, except for the seventh and

eight levels, the change in the ICC increase in efficiency at each successive level.

Relationship of Error Rates to Words per Minute

Appended 11.71 measures the relationship of error rates and words per minute at each of the passage levels. If interest was whether or not this relationship changed with each successive passage

Appendix 11.1

There is no relationship between reading rate and word recognition errors at each of the passage levels in the ICC.

Table 4-11 lists the r 's, r 's squares, correlations, and standard errors for each passage level. Figure 4-1 represents the line of best fit for the error rates and words per minute at each passage level. As reported in Table 4-11 and Figure 4-1, all the r 's were negative and ranged from -1.00 for the second grade passage to $-.28$ for the seventh grade passage. The r 's squares ranged from 0.09 for the primer to 1.00 for the seventh grade passage. The correlations reported in Table 4-11 ranged from $-.0006$ for the pre-primer passage to $-.0009$ for the eighth grade passage. All of these correlations were significant at the 0.01 level. The standard errors ranged from 1.00 for the eighth grade passage to 0.28 for the pre-primer passage.

Without exception, reading rates increased as error rates decreased.

The correlations for words per minute and error rates declined as the passage levels increased. For the pre-primer the correlation

Table 9-11 The slopes, intercepts, correlations, and standard errors by percentile level of wind per minute and error metrics

Percentile Level	Slope	Intercept	Correlation	Standard Error
Pre-peak	-0.76	75.05	-0.905	0.04
Peak	-0.86	88.37	-0.925	0.46
1st	-0.76	89.38	-0.708	0.04
2nd	-0.76	94.70	-0.848	0.03
3rd	-0.86	75.10	-0.667	0.08
4th	-0.86	88.42	-0.844	0.17
5th	-0.44	100.37	-0.845	0.04
6th	-0.82	95.37	-0.874	0.06
7th	-0.21	106.10	-0.676	0.08
8th	-0.47	94.85	-0.820	0.49

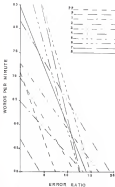


Figure 4-3. Regression lines for words per minute and error ratio by average level.

of 4.87% accounted for 70% of the variance. By the eighth grade passage level, the correlation had dropped to +0.8088 which accounted for only 33% of the variance.

These results indicated that the relationship between error rate and words per minute changed with successive passage levels.

Relationship of Comprehension to Words per Minute

Hypothesis H11 concerns the relationship of comprehension to words per minute at each of the passage levels. Of interest was whether or not this relationship changed with each successive passage level.

Hypothesis H11

There is no relationship between reading rate and comprehension at each of the passage levels in the H11.

Table 4-12 lists the slopes, intercepts, correlations, and standard errors at each of the passage levels on the H11. Figure 4-3 represents the line of best fit for the comprehension scores and words per minute at each passage level. As reported in Table 4-12 and graphed in Figure 4-3, all the slopes were positive and ranged from 0.002 for the sixth grade passage to 0.003 for the pre-primer passage. The intercepts ranged from a -0.407 for the primer passage to 47.580 for the H11th grade passage. The correlations reported in Table 4-11 ranged from 0.1811 for the sixth grade passage to 0.6784 for the pre-primer passage. The standard errors ranged from 2.492 for the eighth grade passage to 4.488 for the primer passage. With the exception of the sixth grade passage, all the correlations were significant at the 0-05 level. Therefore, Hypothesis H11 was rejected for all passages except the sixth grade passage.

Table 4-12 Regression, intercepts, correlations, and standard errors by passage level of units for whole and comprehension

Passage Level	Slope	Intercept	Correlation	Standard Error
Pre-grades	0.847	19.78	.8133	4.85
Grades	-0.808	-8.70	.8849	4.46
1st	-0.542	75.37	.8732	3.84
2nd	-0.454	20.49	.8530	3.35
3rd	-0.259	49.87	.8233	3.29
4th	-0.090	46.71	.8133	3.17
5th	-0.083	67.50	.8076	3.74
6th	-0.040	67.38	.7997	3.38
7th	-0.480	88.30	.8849	3.38
8th	-0.430	58.85	.8849	3.35

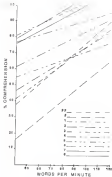


Figure 4-2 Depression lines for comprehension and words per minute by passage level.

With the exception of the sixth grade passage, a significant positive relationship was found between words per minute and comprehension scores. Words per minute increased as comprehension scores increased.

These results indicated that the relationship between words per minute and comprehension scores changed with successive passage levels.

Measurement of the Proficiency of Comprehension for the 12th

Four measures of reading skill were obtained on students who performed on the 12th. These measures were word recognition, reading rate, error rate, and comprehension. Of the four, comprehension was the most important measure, because understanding what one reads is the ultimate goal of reading. The other three measures were descriptive of the oral reading process.

It was an objective of this study to determine if word recognition, reading rate, and error rate were predictive of comprehension of the 12th.

Table 4-10 presents the correlation coefficient matrix for comprehension, error rate, words per minute, and errors per minute. A significant correlation of -0.284 at $p < 0.001$ was obtained between comprehension and errors per minute. Also, the correlations between error rate and either words per minute or errors per minute proved significant at $p < 0.001$. Their correlations were -0.323 and 0.448 , respectively.

A stepwise multiple regression procedure was used to determine the model which "best" predicted comprehension for the 12th.

Table 4-13 Correlation coefficients ρ_{ij} for compression, error focus, words per minute, and errors per minute

	Compression	Error focus	Words per Minute	Errors per Minute
<u>Compression</u>	1.0000	-0.2128	-0.1870	-0.2987 ^a
<u>Error focus</u>	---	1.0000	-0.3287 ^b	0.2987 ^b
<u>Words per Minute</u>	---	---	1.0000	-0.1870
<u>Errors per Minute</u>	---	---	---	1.0000

$$^a \rho_{ij} = 0.495$$

$$^b \rho_{ij} = 0.495$$

Step 2: Results

There is no relationship between comprehension at the instructional level and any of the following: error ratio, words per minute, and errors per minute.

The first variable entered into the model for the prediction of comprehension was errors per minute. It resulted in an R^2 of 0.000. The computed F ratio was 0.00 and the critical F ratio was 3.00 at the 0.05 level of significance. The computed F was greater than the critical F , therefore, errors per minute was a significant predictor of comprehension.

The second variable entered into the equation was words per minute. The R^2 , when both words per minute and errors per minute in the model, was 0.004. The computed F was 1.00 and the critical F was 3.00 at the 0.05 level of significance. The computed F was less than the critical F , therefore the contribution of words per minute to the model, given errors per minute was already in the equation, was not significant.

Error ratio was not entered into the equation because it did not meet the significance level of 0.5 for entry into the model.

Step 3: Results was rejected. Errors per minute was the "best" predictor of comprehension at the instructional level on the DRI. However, errors per minute accounted for only 0% of the variance.

Words per minute and error ratio were consistently negatively correlated. Since errors per minute is a product of words per minute and error ratio, this might explain why words per minute and error ratio

did not contribute significantly to the model, mean errors per minute was already in the equation.

Determination of the Predictors of Instructional Level in the Reading Inventory Test of Reading

The major objective of this study was to determine the word recognition, reading rate, and error rate scoring criteria for the GLE. Since one of the objectives of an informal reading inventory is to determine a student's instructional reading level, it was important to ascertain if word recognition errors, reading rate, and error rate did in the prediction of instructional level. If they do, then this would suggest that these criteria should be included in the determination of a student's instructional reading level.

Instructional level on the GLE was determined for 710 students by using a variable comprehension criteria of 66% for passages pre-
primary to second, 68% for passages titled to Fifth, and 69% for passages fifth to sixth. No other variables were used in determining instructional level for these students who were tested.

Reliability words per minute, tolerance error ratio, and tolerance errors per minute were used in the analysis because these were the current performance levels of which students were given tests to meet the comprehension criteria.

Table 4-11 presents the correlation coefficients matrix for instructional level, tolerance error ratio, tolerance words per minute and tolerance errors per minute. The tolerance error ratios and the tolerance words per minute were both found to be significantly correlated with

Table 4-11 Correlation coefficient matrix for Instructional level, Scientific error ratio, Scientific errors per minute, and Scientific errors per minute

	Instructional Level	Scientific Error Ratio	Scientific Errors per Minute	Scientific Errors per Minute
Instructional Level	1.0000	-0.4817^B	0.5678^B	-0.0000
Scientific Error Ratio	---	1.0000	-0.8004^B	0.4403^B
Scientific errors per Minute	---	---	1.0000	-0.18044
Scientific errors per Minute	---	---	---	1.0000

^B_p < 0.0001

instructional level at $p = 0.0001$. Their correlations were -0.4627 and 0.3478 , respectively. The tolerable error rates were also found to be significantly correlated with both tolerable words per minute and tolerable errors per minute at $p = 0.0001$. Their correlations were -0.4554 and 0.4331 , respectively.

A stepwise regression procedure was used to describe the model which "best" predicted instructional level on the SRI.

Hypothesis 3.2:

There is no relationship between instructional level on the SRI and any of the following: tolerable error rates, tolerable words per minute, and tolerable errors per minute.

The first variable that was entered into the model for prediction of instructional level was words per minute. It resulted in an R^2 of 0.3002 . The computed F ratio was 81.04 and the critical F ratio was 71.8 at the 0.001 level of significance. The computed F was larger than the critical F , therefore, words per minute was a significant predictor of instructional level.

Error rates and errors per minute did not add significantly to the prediction of instructional level after words per minute was already in the model.

Hypothesis 3.3 was rejected. Words per minute was the "best" predictor of instructional level on the SRI. Words per minute accounted for 30% of the variance.

Discussion of the Findings

This section will discuss the findings for the scoring criteria for the L2L, the findings of the tests of significance, and the reliability of these test for each other.

Using variable comprehension criteria of 80%, 90%, and 95% for the respective reading chapters, the mean inter-rater error ratios were calculated for each passage level and for each reading chapter in the L2L. The analysis revealed a general decrease in error ratios across chapters. This result was similar to Passelt's (1979) findings as an informal reading inventory in English. Passelt used a comprehension criterion of 70% for instructional level and found a decrease in error ratios across passage levels and across reading chapters. Passelt's findings were further systematically replicated when the L2L data were re-analyzed using Passelt's (1979) comprehension criterion of 70% and Lucio (1984) comprehension criterion of 85% for instructional level. At these two different comprehension criteria the mean tolerable error ratios in the L2L showed a progressive decrease across chapters.

Using Lucio's comprehension criteria of 75%, the mean tolerable error ratios at all three chapters were close to Lucio's (1984) word recognition criteria of 5 errors per 100 words for instructional level. When the data were re-analyzed using Passelt's comprehension criteria of 70% for instructional level, the mean tolerable error ratios were consistently lower than what Passelt (1979) found in his research on reading performance in an L2L in English. This suggests that the Spanish-speaking students made fewer word recognition errors on the L2L than would have been expected from Passelt's word recognition criteria.

One possible explanation for the differences in the results of this study and the results of Howell's (1982) study could be that the reading process in Spanish is easier. There is a closer sound-symbol relationship in Spanish than there is in English (McWhorter, 1975; Padilla, 1982).

Using variable classification criteria of 80%, 85%, and 90% for the respective reading clusters, the mean tolerable words per minute were calculated for each passage level and for each cluster on the SRI. The analysis revealed a gradual increase in words per minute across clusters. This finding was similar to findings on reading rate in English. However, the reading rates of the Spanish-speaking students were consistently lower than the reading rates that have been found with English-speaking students (McWhorter, 1975; Offens, 1982, and Howell, 1982).

McWhorter (1982) had minimum passing speeds for his Language Reading Inventory that ranged from 40 words per minute at primer level to 150 words per minute at seventh grade level. McWhorter stated that failure of his test sample to surpass these minimum speeds seemed to preclude success in reading at the next higher grade level. McWhorter's minimum speeds were much higher than the mean tolerable words per minute that were found on the SRI. The range on the SRI² was 39.4 at primer level to 82.8 at the eighth grade level.

Offens (1982) reported end-of-year reading rates for his classification population that ranged from 48 words per minute at the

²Excluding the pre-primer level which only had one subject.

first grade level) to 110 words per minute at the eighth grade level. The rates he reported diverge sharply from what was found on the TFC.

The rates found on the TFC are also consistently lower than the average rates reported by Carroll (1962). Carroll's rates ranged from 60 words per minute at the first grade level to 110 words per minute at sixth grade level.

The difference in McGeehan's (1975) findings and the findings on the TFC could partly be attributed to the different comprehension criteria. McGeehan used FBI for the comprehension criteria of the Standard Reading Inventory, whereas Hunt, Daniels' criteria were used on the TFC (SRL, FBI, and FBI for the respective three reading classes). The difference in Carroll's (1962) and Ottens's (1981) findings and the findings on the TFC could partly be attributed to the fact that Ottens and Carroll obtained average reading speeds, whereas the average (mean) rates at which students read a passage and were still able to meet the comprehension criteria, were obtained on the TFC. Thus, word reading rates are being compared to mean actual word

reading rates could be that the students in the present study received only 45 minutes a day of instruction in Spanish language arts. They had a predominantly English-language curriculum.

The lower reading rates of the Spanish-speaking students could also be due to language interference from English. The Spanish teachers at the school described many cases of interference from English when the bilingual students read in Spanish. Words, particularly *e* and *i*, were problematic. This interference was also noted during focus individual

A further explanation for the difference in the findings on reading rates could be the nature of the context. Shiffrin (1970) has observed that the context of a task is the main determinant of reading rates. Kintsch (1970) found that the time an individual takes to read a text is an approximately linear function of the number of propositions in the text. This is so even when the text has been controlled for the number of words.

Using variable comprehension criteria of 60%, 80%, and 90% for the respective reading clusters, the mean tolerable errors per minute was calculated for each passage level and each cluster on the GLL. The analysis revealed a fairly constant error rate across reading clusters. Clusters 1 and 2 had a tolerable error rate of 3.7. The mean tolerable error rate for Cluster 3 was 3.8. These error rates must be interpreted cautiously because of the slow rate at which students read the upper passage levels on the GLL.

Of all the recorded variables, error rate was the "best" predictor of comprehension on the GLL. Since error rate is a product of words per minute and error ratio, it should be noted that a smaller time of these two variables is related to comprehension on the GLL.

The error ratios on the GLL were examined to determine the nature of their relationship to the difficulty level of the passages. When the comprehension criterion was held at 80% across all passage levels, a trend analysis revealed that there was a linear trend in the error ratio mean across all passage levels. The error ratio mean increased as the difficulty of the passages increased. This increase

relationships between error rates and passage levels mean that there was more error latitude on easier material than there was on difficult material. That is, when reading easier material students could make more errors and still understand what they read. With difficult material students could not make so many errors and still understand what they read. This result is consistent with Powell's (1986) findings which showed that tolerance error rates decreased as the difficulty of the material increased.

Powell and Isenhardt (1987) analyzed the passages on the Diagnostic Reading Test (Hewes, 1986), the Elmsley Oral Reading Test (Elmsley, 1981), the Gray Oral Reading Tests (Gray, 1988), the Stanford Analysis of Reading (Gallagher, 1988) and the Spalding-Halligan Reading Readability Tests (1982) (Galen and Halligan, 1981) in terms of the maximum number of allowable errors within the limits of acceptable reading performance. They found that the error rates decreased as the passages increased in difficulty on each of these tests. Apparently, this inverse relationship between error tolerance and difficulty found of material is true in both Spanish and English.

The essential element in this differential progression of errors across reading levels is the readability of the material. The split plot analyses revealed that the primary factor affecting error production was passage difficulty and not grade placement. The number of errors students made while reading orally was affected by the readability level of the passage, not their grade placement. Regardless of what grade they were in, they made more errors on the higher-level

passage than Day 250 in the lower level passage. This result is similar to what Williams (1911) and Rhoades (1949) found. Rhoades observed that, when a child had problems in reading, the nature of his errors represented the reading level of the material at which he was functioning and not his grade placement, age, or selected intelligence.

The results of the split plot analyses suggest that the 1201 word recognition deficits didn't vary with the passage level rather than the student's grade level. The results of the trend analysis suggest that the word recognition deficits should be more frequent at higher level passages than at lower level passages. This is further confirmation of the result found that the most intensive error rates at each passage level and reading cluster were calculated.

The repeated variables on the 1201 were subjected to different analyses to determine the nature of their relationship to oral reading. The Pearson Product Moment Correlation of words per minute and error rate revealed that the two variables were significantly negatively correlated at each passage level on the 1201. This finding is supported by similar findings in English reading (Cassels, 1975; Hunt, 1972; Wilson, 1967). Smith (1971) investigated the effectiveness of a method employing repeated readings to increase the oral reading speed of slow learners. He found that as speed increased word recognition errors decreased. Hunt (1967) found that rapid readers made fewer mistakes. Wilson (1967) in his study of oral reading reported correlations between R 24 and R 76, with a mean correlation of R 47 between speed and oral reading scores.

McCracken (1962) in his research on the Stanford Reading Inventory found that reading rate was reflective of the difficulty a student had in reading at a particular reading level. In his test samples he found that average and above average reading rates were not always associated with good reading, but slow speeds were very often associated with poor word recognition and comprehension, and with frustration level.

In the SRI the correlations between words per minute and comprehension declined as the passage level increased. The highest correlations were in the lower level passages which were predominantly read by primary level students. At this level the reading rates were also the lowest. This finding is similar to Stinson's (1967) who found the highest correlations between reading rate and oral reading accuracy at the first and second grades while the most reading rate was also the lowest.

The Pearson Product-Moment Correlation of words per minute and comprehension revealed that the two variables were significantly correlated at each passage level in the SRI, except at the sixth grade level. Nelson (1966) found a significant relationship between reading rate and comprehension in the Reading Library Reading Tests. His correlations were much higher than those found in the SRI. They ranged between .618 and .836. Differences in the magnitude of these correlations may be a function of the difference between silent and oral reading.

Barclay and Stephens (1971) and Stephens and Perrett (1966) have found large differences between silent and oral skilled readers

in coding speed. In their studies, reading skill was defined in terms of reading comprehension. In a study which compared high skill with low skill third and fifth graders, Barlow and Ferguson (1980) found that the skilled readers had much lower nonfluency indexes than less skilled readers. Vocalization latency was defined as the time taken to begin vocalizing single words presented in a context. In a study which compared high skill with low skill third and fourth graders, Ferguson and Barlow (1981) found that the less-skilled readers were considerably slower than the skilled readers at single-word vocalization.

Thus, these studies found that coding speed and comprehension were highly related for young readers. Jensen, Ray, and Chen (1981) have also found results similar to these.

The relationship between decoding speed and comprehension may be explained by the "loop and transfer" (1976) automaticity theory. This theory postulates that when decoding occurs automatically, attention can be focused on comprehending what is being read. The other critical factor is no longer in the decoding process.

Studies have also found that as the difficulty of the material increases the relationship of rate and comprehension decreases (Spache, 1969). For example, Taylor (1980) reported progressively lower correlations between words per minute and comprehension as the difficulty of the material increased. However, in the present study no obvious systematic change in the correlation was observed as passage level increased. This could be due to the fact that each passage level included skills in students who were performing at instructional level or well as skills in students performing at instructional level or better.

The students who were performing at frustration level may have slowed down their reading rate considerably. In his research on the Stanford reading inventory, Schmeckel (1944) found that slow speeds were very often associated with frustration level. Thus, the fact that the data at each passage included students performing at low levels as well as students performing at high levels may have masked the true effect of the readability of material on reading rate.

Of the three measures of the oral reading process on the IRI, error rate was found to be the best predictor of comprehension at the instructional level. Error rate, or errors per minute, is a product of words per minute and error ratio. Therefore, some estimation of speed and accuracy is predictive of comprehension on the IRI. This result seems to support La Barge and Smucker's (1974) automaticity theory. Once speed and accuracy are necessary for the acquisition of automaticity then decoding has been mastered at the automatic level, attention can be focused on comprehending what is being read.

Of the three measures of the oral reading process on the IRI, words per minute was found to be the best predictor of instructional level. This result supports research done on Danish oral reading by Engelsen, Donsboen, and Borge (1977). They found that this was more discriminating than word recognition errors in measuring the reading skills of seven-, eight-, nine- and ten-year-old children.

This result also is supportive of the research findings of Perfetti and Negeadan (1978). They found that speed of verbal coding was a good predictor of reading success. Perfetti and Negeadan

(1977) conclude that speed is a better predictor of reading achievement test score accuracy can be improved way before skill development is complete. For example, levels of folder reading administered at the beginning of first grade correlate substantially with reading achievement at the end of first grade, folder reading levels administered late in the school year have much lower correlations. On the other hand, measurements of letter naming speed are significantly correlated with reading achievement throughout the school year (Spurr and Loch, 1975).

The analysis of the data collected with the LRI can be used to judge the validity of the LRI. The split plot analysis and the trend analysis are supportive of the sequencing of the passages in the LRI. The split plot analysis, which compared the error ratios on pairs of successive passages, revealed that the difference in the passage level means was consistently in the direction of the higher level passages. All the differences between passages were significant except for the seventh and eighth grade passages. These results suggest that, except for the seventh and eighth levels, the passages in the LRI increase in difficulty at non successive levels.

The trend analysis revealed that there was a linear trend in the error ratio means across all passage levels in the LRI. The fact that the trend was linear is supportive of the sequencing of the passages. A non-linear trend might have indicated that some of the passages were out of order.

A discussion of what further research needs to be done to improve the LRI and how the findings of the study can be interpreted for classroom applications will be discussed in the final chapter.

CHAPTER 7 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter reviews the purpose, procedures, and findings of the study. The chapter ends with the conclusions and recommendations.

Summary

Purpose

The main purpose of this study was to determine the word recognition, reading rate, and error rate scoring criteria for an informal reading inventory in Spanish. To achieve this purpose, the IRI was developed and its reliability was established. Another purpose of the study was to compare performance on the IRI with DeVries' (1984) and Rasch's (1979) word recognition criteria in English. Additionally, hypotheses regarding the relationship of various aspects of oral reading behavior in Spanish and performance on the IRI were tested.

Procedures

There were four major procedural steps in this study:

- (a) development of the IRI, (b) collection of the reliability of the IRI, (c) administration of the IRI, and (d) comparison of the criteria.

In order to develop an informal reading inventory in Spanish with passages of increasing difficulty which were commensurate with

the grade level (200) was assigned to students, it was necessary to obtain readability estimates of graded Spanish reading texts.

The readability of four Spanish-level reading series (2000, 1977; Gelfand, 1971; Santillana, 1980, and McGraw-Hill, 1980) was estimated using a modified version of the 200 readability formula (Kortman et al., 1979). The mean AIL and mean RIL for pre-primer to eighth grade levels were obtained.

Next, passages were written for the LRC for the pre-primer to eighth grade levels. The difficulty level of each passage was controlled by the modified LRC readability formula. Grade level designations for each passage were determined by matching the AIL and RIL of each LRC passage with the mean AIL and mean RIL that was obtained at each grade level for the Spanish-level readers.

Approximately twelve comprehension questions were written for each passage. The LRC passages and comprehension questions were discussed in a teacher workshop and tested in a pilot study. As a result, revisions were made to the passages and items were eliminated from the pool of comprehension questions.

The order of the passages as ranked by the readability formula was tested with a choice procedure. Randomized equivalent choice items, constructed from the pre-primer through eighth grade passages of the LRC, were administered to 200 students in second through sixth grades in two different schools. These subjects were called the readability group. In average class sizes were calculated for each passage by grade and by school, and adjusted pairwise comparisons were made.

Analysis of the class tests suggested that the students had selected their pairs of passages in a different order than the researcher. By forming T-tests of the average class scores for passages 1 and 2, 4 and 5, and 7 and 8 revealed significant differences for passages 1 and 4 and for 7 and 8. On the basis of these results, the order of these two pairs of passages was reversed in the 1982

The 1982 was administered to 118¹ students who had been randomly selected from a population of 125 students on the basis of their grade equivalent scores on the OTS/Mapleleaf. These students comprised the Criteria Group.

Each student in the Criteria Group read successive 3000 passages until he failed to meet the comprehension criteria on two consecutive passages. This was considered the Frustration level. Instructional level was the highest passage on which a student met the comprehension criteria.

To establish the instructional level, Passell's (1976) revised comprehension criteria were used. These criteria vary according to reading cluster and are as follows. 300 for passages through second grade passage levels, 400 for third through fifth grade passage levels, and 600 for passages at the sixth grade level and above.

A record was kept of each student's word recognition errors and the time taken to read each passage. A record was also kept of each student's responses to the comprehension questions.

¹One of one of the original 125 subjects were eliminated from the study. This was because her cumulative results of Frustration were not obtained for these subjects.

The data were analyzed by first the four *Beatsworth* (1990) reading mean inferable words per minute, and mean tolerable error rate for each passage and for each reading student. Tolerable error rate was defined as the maximum errors per 100 words made by a student in any passage where the comprehension criterion was met. Tolerable words per minute was defined as the minimum words per minute made by a student in any passage where the comprehension criterion was met. Tolerable error rate was defined as the maximum errors per minute made by a student in any passage where the comprehension criterion was met.

Findings

The mean tolerable error rates, mean tolerable words per minute, and mean tolerable errors per minute at the chapter level provided the suggested scoring criteria for the instructional level of the SRI. For word recognition, the error rate criteria at the chapter level were 18.0 for pre-primer to second grade, 8.0 for third to fifth grade, and 3.6 for sixth to eighth grade. For oral-reading rate, the words per minute criteria at the chapter level were 50.0 for pre-primer to second grade, 70.0 for third to fifth grade, and 86.0 for sixth to eighth grade. For word study, the errors per minute criteria at the chapter level were 3.7 for pre-primer to second grade, 3.7 for third to fifth grade, and 3.0 for sixth to eighth grade. The criteria referred to the level of the reading material and not the grade level of the student.

The data on error rates were re-analyzed so as to permit comparison with the instructional level criteria in English suggested by

Leite (1981) and Powell (1979). In order to make this comparison, the data on error ratios were re-analyzed twice, using constant comprehension criteria across all passages. The first re-analysis was done with the comprehension criterion set at 30%. This matched Leite's comprehension criterion for Instructional level. The second re-analysis was done with the comprehension criterion set at 70%. This matched Powell's original comprehension criterion for Instructional level. When the comprehension criterion was held at 30%, the results revealed that the mean tolerable error ratios at all three clusters were close to Leite's 30% comprehension criterion for instructional level. When the comprehension criterion was held at 70%, the results revealed that the mean tolerable error ratios at all three clusters were consistently lower than what Powell found for reading performance at Instructional level as an 80% in English. The results of these comparisons were interpreted as meaning that the Spanish-speaking students made fewer word recognition errors on the LRE than would have been expected from Powell's word recognition criteria.

The error ratios on the LRE were examined to determine the nature of their relationship to the difficulty level of the passages. Three hypotheses were tested and the findings are summarized

Findings 1:

There is no relationship between the number of errors students can make and still meet the 80% comprehension criterion, and the difficulty level of the passages.

Hypothesis II

The trend of the error ratio means is non-

linear

Hypothesis III

There are no higher-order trend components
to the error ratio means

Hypothesis I was tested with a one-way analysis of variance for trends in error ratio means. This method required that the line of best fit be established for the error ratios and passage level at the conventional level of each window. Hypothesis I was rejected.

For Hypotheses II and III the data were tested for linearity and departure from linearity using an analysis described by Huh (1960). Hypothesis II was rejected. Hypothesis III was not rejected.

The trend analysis revealed that there was a linear trend in the error ratios across all passage levels. The error ratios decreased as the difficulty of the passages increased. This inverse relationship between error ratios and passage levels means that there was more error (errors to easy material than there are on difficult material). This result is consistent with Roslett's (1970) research on the informal reading inventory in English. It is also consistent with Roslett and Roslett's (1970) analysis of the Diagnostic Reading Scale (Harris, 1944), the Edwards Real Reading Test (Edwards, 1942), the Gray Oral Reading Test (Gray, 1940), the General Analysis of Reading Difficulty (Snowden, 1965), and the 1949-1951 Reading Diagnostic Tests (Snow and Roslett, 1962). They found that the error ratios decreased as the passages increased in difficulty on each of these tests. Apparently,

both several relationships between error tolerance and difficulty level of material is true in both Spanish and English.

An analysis of variance split plot design was used to determine if the readability of the passages rather than the grade of the student accounted for the errors produced on the GRE. Twelve hypotheses were tested and the findings are summarized.

For the first and second grade passage levels, the following hypotheses were stated:

Hypothesis IV

There is no significant difference in the means of the error ratios of second, third, and fourth grades on the GRE.

Hypothesis V

There is no significant difference in the means of the error ratios between the first and second grade passage levels on the GRE.

Hypothesis VI

The difference between first and second grade passage levels is the same for second, third, and fourth grades.

No significant difference was found between the students in second, third, and fourth grades in error ratios made on the GRE. Therefore, Hypothesis IV was not rejected.

The analysis revealed a significant difference at the 0.01 level in the error ratio means between the first and second grade passage levels. Therefore, Hypothesis V was rejected.

The analysis revealed no significant interaction between grade level and passage level. Therefore, Hypothesis II was not rejected.

For the third and fourth grade passages, the following hypotheses were stated:

Hypothesis VII

There is no significant difference in the mean of the error ratios of third, fourth, and fifth grades on the GRI.

Hypothesis VIII

There is no significant difference in the mean of the error ratios between the third and fourth grade passage levels on the GRI.

Hypothesis IX

The difference between third and fourth grade passage levels is the same for third, fourth, and fifth grades.

No significant difference was found between the students in third, fourth, and fifth grades in error ratio mean score on the GRI. Therefore, Hypothesis VII was not rejected.

The analysis revealed a significant difference at the .05 level in the error ratio mean between the third and fourth grade passage levels. Therefore, Hypothesis VIII was rejected.

The analysis revealed no significant interaction between grade level and passage level. Therefore, Hypothesis IX was not rejected.

For the fifth and sixth grade passages, the following hypotheses were stated:

Hypothesis 1

There is no significant difference in the means of the error ratios of fifth and sixth graders on the SRE.

Hypothesis 1.1

There is no significant difference in the means of the error ratios between the fifth and sixth grade passage levels on the SRE.

Hypothesis 1.1.1

The difference between the fifth and sixth grade passage levels on the SRE is the same for fifth and sixth graders.

No significant difference was found between the students in fifth and sixth grades in error ratio means on the SRE. Therefore, hypothesis 1 was not rejected.

The analysis revealed a significant difference at the 0.01 level in the error ratio means between the fifth and sixth grade passage levels. Therefore, hypothesis 1.1 was rejected.

The analysis revealed no significant interaction between grade level and passage level. Therefore, hypothesis 1.1.1 was not rejected.

For the seventh and eighth grade passage levels, the following hypotheses were stated:

Hypothesis 2.1.1

There is no significant difference in the means of the error ratios of fifth and sixth graders on the SRE.

Hypothesis XII:

There is no significant difference in the mean of the error ratios between the seventh and eighth grade passage levels on the SER.

Results of XII:

The difference between the seventh and eighth grade passage levels on the SER is the same for the FIFB and state grades.

No significant difference was found between the students in FIFB and state grades in error ratios made on the SER. Therefore, hypothesis XII was not rejected.

The analysis did not reveal a significant difference in the error ratio means between the seventh and eighth grade passage levels. Therefore, hypothesis XII was not rejected.

The analysis revealed no significant interaction between grade level and passage level. Therefore, hypothesis XI was not rejected.

The split plot analysis revealed that, except for the seventh and eighth grade passages, the primary factor affecting error production on the SER was passage difficulty and not grade placement.

Regardless of what grade students were in, they made more errors on the higher level passages than they did on the lower level passages. These results suggested that, except for the seventh and eighth grade passages, the passages on the SER increase in difficulty at each successive level.

The relationship between words per minute and error ratios at each passage level was investigated. The following hypothesis was tested and the findings are summarized.

Hypothesis VI

There is no relationship between reading rate and word recognition errors at each of the passage levels on the SRI.

Pearson Product Moment correlations were calculated between the two variables at each passage level. A significant negative relationship at the .05 level was found between words per minute and error rates at each passage level. Therefore, hypothesis VI was rejected. The relationship between error rates and words per minute changed with successive passage levels. As the passage levels increased the correlation between the two variables declined.

The relationship between words per minute and comprehension at each passage level was investigated. The following hypothesis was tested and the findings are summarized.

Hypothesis VII

There is no relationship between reading rate and comprehension at each of the passage levels on the SRI.

Pearson Product Moment correlations were calculated between the two variables at each passage level. With the exception of the sixth grade passage, a significant positive relationship at the .05 level was found between words per minute and comprehension scores. Therefore, hypothesis VII was rejected for all passages except the sixth grade passage.

A Multiple Regression Analysis was used to determine if word recognition, reading rate, and error rate were predictors of comprehension.

view on the SRI. The following hypothesis was tested and the findings are summarized.

Hypothesis VIII

There is no relationship between comprehension at the instructional level and any of the following error ratios, words per minute, and errors per minute.

Hypothesis VIII was rejected. The findings revealed that errors per minute was the "best" predictor of comprehension at the instructional level in the SRI.

A Stepwise Regression Analysis was used to determine if word recognition, reading rate and error rate were predictive of instructional level in the SRI. The following hypothesis was tested and the findings are summarized.

Hypothesis IX

There is no relationship between instructional level in the SRI and any of the following variables: error ratios, letter/s words per minute, and letter/s errors per minute.

Hypothesis IX was rejected. The findings revealed that words per minute was the "best" indicator of instructional level in the SRI.

These results suggest research done to improve oral reading by Spanish, Dominican and Black (1982). They found that there was more discriminating than word recognition errors in measuring the reading skill of seven-, eight-, and ten-year-old children.

The findings of the study tested support for the validity of the SRI. The results of the split plot analysis suggested that, except for the seventh and eighth grade levels, the measure on the

SIRI increase in difficulty at each successive level. The linear trend that was found in the error ratios across all passage levels was supportive of the sequencing of the SIRI passages.

Conclusions

The following conclusions were warranted in light of the findings and limitations of this study:

1. The readability formula proved to be a reasonable estimator of the readability of Spanish passages, at least for materials between pre-primer and eighth-grade levels; however, the formula may only estimate the difficulty of materials within this or above the given level. The formula may not be adequate for text construction if used by itself. However, since grade level designations were obtained for the formula, it may prove helpful to teachers in estimating the difficulty of classroom materials.
2. Evidence of construct validity for the SIRI was derived from the results of the split plot analyses and the trend analysis. When primitive complexities of passages were held, students made significantly more errors on the higher level passages than they did on the lower level passages. This was true for all passages except the seventh and eighth grade passages. This result suggests that, in general, the passages on the SIRI increase in difficulty at each successive level. The linear trend that was found in the error ratios across all passage levels was supportive of the sequencing of the SIRI passages.

3. Several of the findings of the study suggest that there is a similarity between reading in English and reading in Spanish. The trend analysis revealed that there was a linear trend in the error rates across all passage levels. The error rates decreased as the difficulty of the passages increased. This inverse relationship between error rate and difficulty level of passage is similar to what Posell (1972) found in an informal reading inventory in English.

A significant positive relationship was found between reading rate and error rates at the passage level in the L2. This result is similar to findings in English (James, 1970; Wood, 1982, and others, 1987).

Except for the sixth grade passage, a significant positive relationship was found between reading rate and comprehension at the passage level. This result is similar to findings in English (James, 1970; Thomas, 1980, and Johnson and Thomas, 1981).

4. Findings from the study are indication of the the criteria should be applied. The results of the split plot analyses suggest that the L2 word recognition criteria should vary with the passage level rather than with the student's grade level. The results of the trend analysis suggest that the word recognition criteria should be more stringent at higher level passages than at lower level passages.

5. The mean lexical error rate, mean lexical words per minute, and mean lexical errors per minute at the cluster level provided the suggested scoring criteria for the instructional level on the ERI. These criteria provide guidelines for assessing performance on the ERI.

It was found that words per minute was predictive of instructional level. This finding supports that reading rate should be used as one of the factors for determining instructional level on the ERI. Error rate might also be considered in determining instructional level since it was found to be predictive of comprehension. These two variables could be compared with each other and with comprehension in determining a student's instructional level with the ERI.

6. When the comprehension criterion was set at 50% across all student levels, the mean lexical errors made on the ERI were less than those found by Powell (1980) on an ERI in English.

A possible explanation for the lower mean lexical error rates that were found in Spanish could be the closer sound-symbol relationship that exists in Spanish.

Recommendations

The following recommendations are suggested as a result of the findings and limitations of this study:

1. Greater caution needs to be taken in the context of the difficulty level of instructional materials in Spanish.

stage the AIL and IAL of different level series to Spanish is independent across series and from one level to the next within series.

2. A linear readability formula needs to be developed which is based on linguistic variables predictive of the subject difficulty level of materials, and which uses the close procedure as a criterion.
3. The study should be replicated in order to find out if the findings can be generalized to other Spanish/English groups living in the United States, such as Mexican Americans, Puerto Ricans, and Central Americans.
4. The study should be replicated in order to compare the criteria obtained with two different populations.
5. Pilot studies should be undertaken with different Spanish/English groups living in the United States, such as Mexican Americans, Puerto Ricans, and Central Americans, in order to explore the suitability of the Spanish used in the IAL to the students of these other groups.
6. In order to more comprehensively test the ordering of the passages, so that the rank ordering of each passage can be compared to the rank order of all other passages, all other passages should be administered to one group of students.
7. In order to further explore the low reading rates found in this study, a comparative study should be undertaken with a similar population of students. A comparison could be made of Hispanic student's reading rates to

Spanish and English, while accounting for language proficiency in the two languages.

8. The ordering of the passages could be tested by exploring whether the comprehension percentages observed on the GRE rank order the passages in the same way as the three procedures did.
9. A comparative study could be done of word recognition errors made on the GRE with word recognition errors made on an GRE in English. A comparison of the error patterns could be made to see if the same types of errors are predictive of comprehension in both English and Spanish.
10. In order to explore factors that might have affected the low reading rate found in this study, another study could be done to see which types of errors predict reading rate.
11. A study could be done using the GRE to investigate which types of errors are predictive of comprehension. This would give an indication of which errors should be counted as semantic errors on the GRE.
12. An analysis could be done to determine if there is a significant difference between the number of errors on the international level passage and on the frustration level passage. This would test the validity of the concepts of international level and frustration level in Spanish.
13. A study could be done using the GRE to investigate which types of errors are predictive of reading rate. This

would give an indication of which errors should be counted as careless errors on the SIRE, those reading rate was found to be predictor of instructional level on the SIRE. The results would be of diagnostic value to teachers to help students become proficient with fluency.

APPENDIX B

TEACHER RATING SHEETS OF THE 1200 PASSAGES AND COMPREHENSION QUESTIONS

1. Rating Sheet for the Spanish Language Reading Inventory (1200) passages. This rating sheet will used for each of the 1200 passages.
2. Rating Sheet for the 1200 comprehension questions. A different rating sheet will used for each set of comprehension questions. The rating sheets for comprehension questions are in the following order:
 - a. Pre-primer passage questions
 - b. Primer passage questions
 - c. First grade passage questions
 - d. Second grade passage questions
 - e. Third grade passage questions
 - f. Fourth grade passage questions
 - g. Fifth grade passage questions
 - h. Sixth grade passage questions
 - i. Seventh grade passage questions
 - j. Eighth grade passage questions

PROBACI DE TESTE

16. Calculați cu aproximație
pentru $\alpha = 0,05$:

α	β	γ	δ

17. Calculați cu aproximație
pentru $\alpha = 0,05$:

--	--	--	--

18. Calculați cu aproximație
pentru distribuția cu medie
egală cu varianță:

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19. Calculați cu aproximație
pentru $\alpha = 0,05$:

--	--	--	--

20. Calculați cu aproximație
pentru $\alpha = 0,05$:

--	--	--	--

PROBACI DE TESTE

EXERCISES: Part 1a. PRE-SENTENCE

Interjection	Adverb	Adjective	Infinitive

122) *aparece* or *se* *aparece* *de* *banda*?

--	--	--	--

123) *después* or *banda*?

--	--	--	--

124) *aparece* or *banda*?

--	--	--	--

125) *aparece* *banda* *aparece* *de* *banda*?

--	--	--	--

126) *aparece* *banda* *de* *banda* *aparece* *banda* *banda*?

--	--	--	--

127) *aparece* *de* *banda* *banda* *de* *banda*?

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128) *aparece* *banda* *banda* *aparece* *de* *banda* *banda* *banda* *banda* *banda* *banda*?

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129) *aparece* *banda* *de* *banda* *banda* *banda*?

--	--	--	--

130) *aparece* *banda* *banda* *banda* *banda* *banda*?

--	--	--	--

131) *aparece* *banda* *banda*?

--	--	--	--

132) *aparece* *banda* *banda* *banda* *banda* *banda* *banda*?

--	--	--	--

133) *aparece* *banda* *banda* *banda* *banda* *banda* *banda*?

--	--	--	--

134) *aparece* *banda* *banda* *banda* *banda* *banda* *banda*?

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Exerciciul 10. 10 puncte

Explicare	Scara	Argument	Indicatore

10- (10) Ce înseamnă să ai o viață bună? Ce înseamnă să ai o viață bună? Ce înseamnă să ai o viață bună?

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10- Ce înseamnă să ai o viață bună? Ce înseamnă să ai o viață bună? Ce înseamnă să ai o viață bună?

--	--	--	--

10- Ce înseamnă să ai o viață bună? Ce înseamnă să ai o viață bună? Ce înseamnă să ai o viață bună?

--	--	--	--

10- Ce înseamnă să ai o viață bună? Ce înseamnă să ai o viață bună? Ce înseamnă să ai o viață bună?

--	--	--	--

10- Ce înseamnă să ai o viață bună? Ce înseamnă să ai o viață bună? Ce înseamnă să ai o viață bună?

--	--	--	--

10- Ce înseamnă să ai o viață bună? Ce înseamnă să ai o viață bună? Ce înseamnă să ai o viață bună?

--	--	--	--

10- Ce înseamnă să ai o viață bună? Ce înseamnă să ai o viață bună? Ce înseamnă să ai o viață bună?

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10- Ce înseamnă să ai o viață bună? Ce înseamnă să ai o viață bună? Ce înseamnă să ai o viață bună?

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10- Ce înseamnă să ai o viață bună? Ce înseamnă să ai o viață bună? Ce înseamnă să ai o viață bună?

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10- Ce înseamnă să ai o viață bună? Ce înseamnă să ai o viață bună? Ce înseamnă să ai o viață bună?

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10- Ce înseamnă să ai o viață bună? Ce înseamnă să ai o viață bună? Ce înseamnă să ai o viață bună?

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10- Ce înseamnă să ai o viață bună? Ce înseamnă să ai o viață bună? Ce înseamnă să ai o viață bună?

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10- Ce înseamnă să ai o viață bună? Ce înseamnă să ai o viață bună? Ce înseamnă să ai o viață bună?

EXERCISES, PART II, SPANISH, GRADE

Insuficiente	Bueno	Regular	Insuficiente
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

121 ¿Pasa usted en español todos los
seminarios de español?

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
----------------------	----------------------	----------------------	----------------------

122 ¿Se aplica bien la medida de
trabajo en español?

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
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123 ¿Hay una gran variedad de cosas
a hacer en los cursos de español?

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
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124 ¿Qué se aprende de palabras de
los cursos de español?

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
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125 ¿Hay una buena variedad de
palabras en los cursos?

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
----------------------	----------------------	----------------------	----------------------

126 ¿Qué palabras se aprenden
de los cursos de español?

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
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127 ¿Qué cosas se aprenden de los
cursos de español?

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
----------------------	----------------------	----------------------	----------------------

128 ¿Qué cosas se aprenden de los
cursos?

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
----------------------	----------------------	----------------------	----------------------

129 ¿Hay una gran variedad de cosas
a hacer en los cursos de español?
¿Hay una gran variedad de cosas
a hacer en los cursos de español?

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
----------------------	----------------------	----------------------	----------------------

130 ¿Qué palabras se aprenden de los
cursos de español?

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
----------------------	----------------------	----------------------	----------------------

131 ¿Hay una gran variedad de cosas
a hacer en los cursos de español?
¿Hay una gran variedad de cosas
a hacer en los cursos de español?

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
----------------------	----------------------	----------------------	----------------------

132 ¿Hay una gran variedad de cosas
a hacer en los cursos de español?

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
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133 ¿Hay una gran variedad de cosas
a hacer en los cursos de español?

EXERCISES: PAGE 10, TOPIC 1000

Exercise	Score	Regular	Irregular

111 a) How are children in the
school in the summer in the school?

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112 a) How are children in the school in the
school in the summer in the school?

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113 a) How are children in the school in the
school in the summer in the school?

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114 a) How are children in the school in the
school in the summer in the school?

--	--	--	--

115 a) How are children in the school in the
school in the summer in the school?

--	--	--	--

116 a) How are children in the school in the
school in the summer in the school?

--	--	--	--

117 a) How are children in the school in the
school in the summer in the school?

--	--	--	--

118 a) How are children in the school in the
school in the summer in the school?

--	--	--	--

119 a) How are children in the school in the
school in the summer in the school?

--	--	--	--

120 a) How are children in the school in the
school in the summer in the school?

--	--	--	--

121 a) How are children in the school in the
school in the summer in the school?

--	--	--	--

122 a) How are children in the school in the
school in the summer in the school?

--	--	--	--

123 a) How are children in the school in the
school in the summer in the school?

PERSONAL DATA TO BE FILLED IN

nom	prénom	adresse	nationalité

(1) Avez-vous les études les
suivantes?

--	--	--	--

(2) Avez-vous déjà obtenu les
diplômes?

--	--	--	--

(3) Avez-vous obtenu les
diplômes en tant que tel?

--	--	--	--

(4) Avez-vous obtenu les études à
un autre endroit?

--	--	--	--

(5) Avez-vous obtenu des diplômes?

--	--	--	--

(6) Avez-vous obtenu, après les
études, des diplômes de la même
nature?

--	--	--	--

(7) Avez-vous obtenu les études
en France?

--	--	--	--

(8) Avez-vous obtenu et obtenu la
même formation que les études
suivantes?

--	--	--	--

(9) Avez-vous obtenu la même ou
une formation de la même
nature?

--	--	--	--

(10) Avez-vous obtenu des diplômes?

--	--	--	--

(11) Avez-vous obtenu des diplômes
de la même nature que les études
suivantes?

--	--	--	--

(12) Avez-vous obtenu la même ou
une formation de la même
nature que les études
suivantes?

--	--	--	--

(13) Avez-vous obtenu, après les
études, des diplômes de la même
nature que les études
suivantes?

EXERCISES POUR LE QUATRIÈME TRIMESTRE

Question	Reponse	Reponse	Reponse

(1) Pourquoi les enfants qui aiment
s'occuper de la maison?

--	--	--	--

(2) Pourquoi est-ce que vous ne le faites
pas souvent?

--	--	--	--

(3) Quel genre de travail aimez-vous?

--	--	--	--

(4) Pourquoi est-ce que vous ne le faites pas
souvent?

--	--	--	--

(5) Quel genre de travail aimez-vous?

--	--	--	--

(6) Pourquoi est-ce que vous ne le faites pas
souvent?

--	--	--	--

(7) Pourquoi est-ce que vous ne le faites pas
souvent?

--	--	--	--

(8) Pourquoi est-ce que vous ne le faites pas
souvent?

--	--	--	--

(9) Quel genre de travail aimez-vous?

--	--	--	--

(10) Pourquoi est-ce que vous ne le faites pas
souvent?

--	--	--	--

(11) Pourquoi est-ce que vous ne le faites pas
souvent?

--	--	--	--

(12) Pourquoi est-ce que vous ne le faites pas
souvent?

PROBLEMS FROM THE 1990S CLASS

Exercise	Name	Register	Reference
			11) ¿pueden leer los señores?
			12) ¿pueden sacar agua de tan pronto como se acaba de apagar el motor?
			13) ¿pueden salir de pronto de la ciudad y al pueblo?
			14) ¿pueden ir al aeropuerto en la hora?
			15) ¿pueden salir de la ciudad en la mañana?
			16) ¿pueden salir de la ciudad y al pueblo?
			17) ¿pueden salir de la ciudad tan pronto como se acaba de apagar el motor?
			18) ¿pueden salir de la ciudad tan pronto como se acaba de apagar el motor?
			19) ¿pueden salir de la ciudad tan pronto como se acaba de apagar el motor?
			20) ¿pueden salir de la ciudad tan pronto como se acaba de apagar el motor?
			21) ¿pueden salir de la ciudad tan pronto como se acaba de apagar el motor?
			22) ¿pueden salir de la ciudad tan pronto como se acaba de apagar el motor?
			23) ¿pueden salir de la ciudad tan pronto como se acaba de apagar el motor?
			24) ¿pueden salir de la ciudad tan pronto como se acaba de apagar el motor?
			25) ¿pueden salir de la ciudad tan pronto como se acaba de apagar el motor?
			26) ¿pueden salir de la ciudad tan pronto como se acaba de apagar el motor?
			27) ¿pueden salir de la ciudad tan pronto como se acaba de apagar el motor?
			28) ¿pueden salir de la ciudad tan pronto como se acaba de apagar el motor?
			29) ¿pueden salir de la ciudad tan pronto como se acaba de apagar el motor?
			30) ¿pueden salir de la ciudad tan pronto como se acaba de apagar el motor?

EXERCICES N° 44 DE SOUS-TYPE 19000

Question	Reponse	Reponse	Indicateur

121) Quelle est l'unité?

--	--	--	--

122) Quelle est l'unité?

--	--	--	--

123) Quelle est l'unité? Quelle est la mesure de l'angle? Quelle est la mesure de la surface?

--	--	--	--

124) Quelle est l'unité? Quelle est la mesure de l'angle? Quelle est la mesure de la surface?

--	--	--	--

125) Quelle est l'unité? Quelle est la mesure de l'angle? Quelle est la mesure de la surface?

--	--	--	--

126) Quelle est l'unité? Quelle est la mesure de l'angle? Quelle est la mesure de la surface?

--	--	--	--

127) Quelle est l'unité? Quelle est la mesure de l'angle? Quelle est la mesure de la surface?

--	--	--	--

128) Quelle est l'unité? Quelle est la mesure de l'angle? Quelle est la mesure de la surface?

--	--	--	--

129) Quelle est l'unité? Quelle est la mesure de l'angle? Quelle est la mesure de la surface?

--	--	--	--

130) Quelle est l'unité? Quelle est la mesure de l'angle? Quelle est la mesure de la surface?

--	--	--	--

131) Quelle est l'unité? Quelle est la mesure de l'angle? Quelle est la mesure de la surface?

--	--	--	--

132) Quelle est l'unité? Quelle est la mesure de l'angle? Quelle est la mesure de la surface?

--	--	--	--

133) Quelle est l'unité? Quelle est la mesure de l'angle? Quelle est la mesure de la surface?

PROBLEME NR. 10. OCULTO-OROS

Numărul Nume Data naş. Activitatea

--	--	--	--

1) Care este data naşterii tale?

--	--	--	--

2) Care este data naşterii mamei şi a tatălui tău?

--	--	--	--

3) Care este profesia mamei şi a tatălui tău?

--	--	--	--

4) Care este numele mamei şi a tatălui tău?

--	--	--	--

5) Care este data naşterii mamei şi a tatălui tău?

--	--	--	--

6) Care este data naşterii mamei şi a tatălui tău?

--	--	--	--

7) Care este data naşterii mamei şi a tatălui tău?

--	--	--	--

8) Care este data naşterii mamei şi a tatălui tău?

--	--	--	--

9) Care este data naşterii mamei şi a tatălui tău?

--	--	--	--

10) Care este data naşterii mamei şi a tatălui tău?

--	--	--	--

11) Care este data naşterii mamei şi a tatălui tău?

--	--	--	--

12) Care este data naşterii mamei şi a tatălui tău?

APPENDIX B

CLASS TESTS

The class tests were administered to the Bookbinding Group during January, 1961. The tests below are given in the pages that follow:

- a. Pre-Primer test
- b. Primer test
- c. First grade test
- d. Second grade test
- e. Third grade test
- f. Fourth grade test
- g. Fifth grade test
- h. Sixth grade test
- i. Seventh grade test
- j. Eighth grade test

Mugi

Tant tuca e Mugi

Mo la _____

Tant Mugi y Mugi

_____ en la casa

Mugi _____ Mugi

Mugi me vici _____ in casa

Abasta vici _____?

Tant Mugi en el _____

Va a Mugi

Mugi _____ con el Mugi

Mugi _____

El gata Mugi

Mugi _____

El gata Mugi a _____ casa

Mugi Mugi y _____

Tant Mugi

—Tan Mugi

_____ a Mugi

Mugi Mugi _____ Mugi con Tant

Mugi _____

Tant Mugi

Tuo ille _____ gale
 Mpi va per _____ gale,
 Mpi certe con _____ gale
 Mpi raga si _____
 Le de ille a _____
 Mpi with concerto
 Mpi with concerto.

La Filista

¡Viva la patria! - grita Manolo

¡Viva la patria!

_____ Viva.

¡Alegrías y dulces!

_____ Paso

- ¡Que viva! - gritan _____ niñas

Tía Pato pregunta

"_____ va a comprar los _____"

Tía, ¡sí! - gritan los _____

Las niñas dicen que _____

Tío Pato dice

Venida, _____ vamos a ir

Manolo _____ sabe los nombres

Manolo _____ de a la patria

_____ me en campo de _____

Solo le da a _____ palabras

¡Viva la patria!

"_____ repite la patria!"

gritan _____ niñas-

Calculus juguetes?

Calculus _____)

Las niñas gritan.

Las _____ (giran)

Todos dicen las _____)

Todos juegan con las juguetes.

El Populino.

Encanta (y)endo un papel de China.

El _____ de papel le dice

- _____ quiere ser populino

El _____ un populino bonito

Y _____ le dice

- Me gustaría _____ un populino

Voy a _____ contigo un populino.

Más _____ ser un populino bonito!

- _____ quiere y papel de _____

- dice el papel.

Hace _____ de volar.

Encanta como _____, pero

segunda parte el _____ de volar.

Encanta Encanta _____!

- Que bonito está el _____!

Voy a hacerle volar.

- ¡ _____, sí! - dice el papel

_____ quiere ser un populino.

- _____ necesita una cola para _____

Hace cinco parte en _____

Encanta hace la cola.

_____ hecha de cinco partes.

- ¡ _____ bonita está el populino!

_____ Teniente,

hay 8 heridos _____

- (Dio, así) - ¿dónde es _____?

- Necesitamos más para mantenerlos _____, así como

heridos etc _____, más el personal.

Segunda _____ el personal

¿Qué hay _____?

Es un día bonito

_____ el viento.

Teniente: ¿dónde

- (El _____) ¿cómo que nadie es _____?

Ahora puede haber más en el personal.

Una Visita a Texas

Una noche durante el verano vino al territorio.

Ella _____ abuelita de Ramón. Quería

_____ por nuevas visitas a _____ en

Texas. Se acordó _____ porque había mucho tiempo

_____ no los veía. La _____ de Ramón

decidió visitarla _____ segunda

Cuando llegaron a _____ Antonio, la

abuelita les _____ a pasar. Por todas

_____ se notaba la influencia _____ la

cultura mexicana

- ¿Qué _____ cosas de Texas? - preguntó

- El - comenzó su abuelita - _____ y
tacos son verdaderamente _____

Después del paseo fueron _____ en

restaurantes. Comieron tacos _____ enchiladas,

dos platos típicos _____ México. Esta comida era

_____ de la que se _____ había _____

añal, a _____ le gustó

Después de _____ en barrios de inmigrantes

_____ muchas nuevas historias. A _____

siempre les encantaba todo. _____ abuelita le

compró un _____ a Ramón. A su _____ la

compró una muñeca _____ jugó

di dia seguinte, _____ Família Esp. e um
 _____ a pouco (Roda para) _____ por
 grandeza. Com todos _____, inclusive todos os
 _____ em círculo com regalias!

La Tortuga

Como marcháramos solos, en una misma línea me leía
que era el rey de todos los animales. Esta leña era una
_____ animal y terrible. Todos _____
animales lo tenían miedo.

_____ día el leño llegó _____
todas las animales a _____, uniformada. Los
animales que _____ el que me animaron...
_____ los animales animaron a _____
Marcha hacia la izquierda _____, uniformada. Fué
mucho tiempo _____, durante mucho tiempo como
_____ el reino. Ya se _____ a terminar
el reino _____, empezaron a quitar los
_____.

- ¡La tortuga! ¡Te llegó _____, tortuga!
la gobernante tortuga _____, también de
miedo. Después, _____, presenté ante el rey
a _____, qué lindo tan cerca -
_____, presenté al leño. Ella _____, la
cita para esta _____.

Se lo recibí, señor _____, y en seguida
me _____, en camino. Para mí _____, con
muy cortas y _____, después. Además me
explicó: _____, frío y me engañó _____
Ella. Por eso regresé _____, buscar al abuelo
Ella _____, el abuelo sobre la _____.

Al oír esto el _____ se puso a reír.

¡ _____! ¡No, no! qué gracioso!

_____ al rap - Bromeas, como _____

por haber bromeado al _____ - continuó el hijo -

Llamarle _____ en casa sobre la _____

Para de hoy en _____ tendrás que saber que

_____ aunque del padre superior

_____ más tiempo.

Después de todo la tarta se la ganaba; porque
ahora se tiene que considerar su caso

El Conejillo y el Tigre

En una de esas muy temprano y todo está tranquilo
en la noche. De vez en _____, se oye el canto
_____ las aves y el _____ de las
gálgas. Hay _____ gran oscuridad. Sólo se
_____ una luz tenue en _____, sobre el
bosque de _____ árboles.

Un tigre pasea _____ entre la hierba
cerca _____, sus ojos se ven _____.
Pero se está completamente _____ para él no
ojo _____, silencio. Así puede ver _____
que se mueve en _____, entre

Ve un conejillo _____, está perfectamente
hacia la _____. Pero el conejillo no
_____ el tigre.

El tigre _____ - cuando el conejillo se
_____ voy a acorralarlo.

Por _____ del tigre, se ve
_____ está un mono sentado _____ en
sobre en la _____.

- Cuando el tigre salta - _____ el mono
le sobresale _____, pero en la noche
_____ hacia el conejillo escondido
_____ totalmente. Entonces hacia la
_____ con la cabeza agachada _____ de
sus movimientos. No _____ nada.

En otro caso _____ para una vez que
 _____ al caso y dice
 - _____, tal vez el caso es _____
 cuando dice la tira _____, como es la misma
 _____, sigue
 Mientras tanto al _____ se refiere al
 signo _____, sigue se levanta y _____
 porque para empezar la _____ al cambio se la
 _____ del signo El cambio _____, los
 otros y se _____, cambiando, se vuelve y se nota
 a seguir

La abeja haragana

Sabía una vez una abeja haragana. Cuando todas las
 _____ venían volando a sus
 _____, ella se divertía. Las _____
 abejas aprendieron a buscar _____, mister de las
 flores. _____ buscar la miel para _____
 abeja haragana solamente picotaba _____ ideas
 insensibles de esos _____ las otras abejas
 aprendieron _____ modo de comunicación muy
 _____ para la reunión del _____ pero
 la abeja se _____ aprendió. No sabía que
 _____ distancias había de las _____
 colinas hacia donde estaban _____ flores buenas
 para hacer _____ miel.

Todos los días _____ otras abejas se
 venían _____ para llevar la colmena
 _____ miel. Mientras tanto la _____
 abeja se recordaba las historias _____ saber la
 dirección en _____ debía volar. Siempre
 confundía _____ direcciones que las otras
 _____ señalaban con sus talas
 _____ día la abeja haragana
 _____ la encontró en que _____ volar
 la fue muy _____ de la colmena. Al
 _____ al sol se dio _____

de que había perecido _____, cuando _____
aprovechándose de _____ dirigióse a una
puerta _____ Ya la noche estaba _____
aparece un viento frío; _____ al cuerpo
atacado por _____ con frío y no
_____ volver más _____
la tierra. Fué la _____ cuando
al amanecer, _____ otras abejas llegaron
a _____ abejas por todas partes _____
En la habitación debajo _____ un árbol medio
muerto _____ frío la llevaron a _____
colinas. Cuando caudré la _____, diré a los
dioses:
" _____ más, háganos un favor
Enviarnos el modo de construcción que todas las abejas
deben saber;

La Armada Española

El número de buques de guerra del año 1812: los vapores
estaban destinados para guerra. Los armados de 28 galeras
españolas. Flota de oro y plata _____ del Perú,
de México _____, la vela con destino _____
España. Al punto de _____, Salama, más nave
pasada _____, cinco regatas que contenían
_____ piezas y el poder _____ España

El número: la _____ está en el
barco _____ de Florida, también la
_____ más rápida. Para vino _____
tormenta que levanta grandes _____

Por la tarde la _____ en Mar más fuerte
_____ se precipitan fuertes tormentas
_____ por se revolvía fuertemente _____
las naves se arremolaban _____ violencia
produciendo un ruido _____

La flota del verano _____, las galeras
en tanto _____ llevadas por las olas
_____ de los galones, el _____ y el
Barra Pangarita: _____ fueron a pie. Algunos
_____ se arrojaron entre ellos _____
amante Manuel Juan Balle

_____ ahora después el silencio
 _____ habido buscaba entre de _____
 trayas de las Marquetan _____ repentinamente habido
 en apariencia _____ la superficie del mar;
 _____ profundamente y acunándose un
 _____ en la mano Francisco _____ el
 jefe del salvamento _____ malamente muertos
 habido grillos

- ¡ _____ lo que insostenible
 al _____ del mar habido en
 _____ a ellos y volando
 - ¡ _____ por vuestra persona, dados
 _____ libertad!
 ellos está en _____ y dijo en voz

- Habéis, al al palabras _____ Senor
 ¡Está al Senor de un agallero de Castilla; repáralo ya
 libertad!

El Embarco de Cortés, con Motecuma

Idieron las buenas compañías de Hernán Cortés frente a Tenochtitlán el 8 de noviembre de 1519. Motecuma, el gran señor de México, había enviado algunos a Cortés _____ una muestra de que _____ sigiera adelante. Pero Cortés _____ respondía con un despliegue _____ caballos y cañones. Este _____ acordó a las armas _____, como había visto con _____, a un caballo a _____ caballos los indígenas le _____. Dijo a Motecuma que _____, visitando muchas veces cuando _____ que dominaban el fuego. _____ dijeron que los europeos _____ habían aliado con los _____ de las armas.

Motecuma _____ a las espaldas con _____, porque sabía que Cortés _____. Quetzalcóatl, un dios antiguo _____, había regresado. Por eso _____, dispuesto a recibir a _____, espaldas un poquito.

Muchos _____ y algunos soldados a _____ a las espaldas. Nadie _____, vestidos y en señal _____, que temían al ruido _____ la mano y brazos _____, llenos.

Montezuma llegó en _____ antes de la
caída de _____ donde vivió rodeado de
_____ y señores próximos, con sus
_____ grandes amigos.

Montezuma salió _____ invitación a Cortés y
_____ le mostró gran deferencia _____
trató de atraer a _____, pero los amigos le
_____ Entre las acciones de _____ se
era respetado. Montezuma sabía que los españoles
fueron benéficos y colonos de joyas.

El Buen Principiante.

Juan Molina era un buen principiante de Capo Verde
 En día Juan decidió con su amigo, Manuel _____
 las aventuras maravillosas que _____ en estas islas
 Juan _____, viajaron en barco en _____
 en el bote

El _____, más profundamente,
 _____, actividad que aumentaba la _____, del
 agua sobre su _____, y experimentó un peso
 _____, la misma. Había aprendido _____
 las clases de buceo _____, la presión aumenta a
 _____, que el bote bajo _____, una
 profundidad en el _____, aprendía que el
 oxígeno _____, fluye en la sangre
 _____, vapores nocivos de nitrógeno más
 _____, se absorbe una. También _____
 que era importante subir _____, el agua
 lentamente para _____, disminuir la presión en
 _____, cuerpo

Juan bajó a _____, profundidad de cien
 pies _____, agua a su alrededor _____
 muy fría y decidió _____, bajo agua una
 colina _____, subir se acercó a
 _____, arrecifes de corales hermosos
 _____, repentinamente un tiburón _____, le

debe verla rápidamente _____ se levantó
 corriendo

Con _____ temor reflejado en su
 _____, Juan sólo sabía que _____
 alcanzar la aldea que _____ la carretera. Sabía
 que _____ haría lo posible para llegar
 _____ al agua para beber _____
 pronto en el campo. _____ era porque el
 animal _____ le seguía por lo tanto
 _____, sabía que más allá de él _____

De repente apareció en _____ Manuel con
 una antorcha _____. Rápidamente apuro la
 respiración hacia el alba y después salvándole la vida a
 Juan.

APPENDIX C

SPANISH LITERARY READING SKILLS TEST

The Spanish Literary Reading Inventory (SLRI) was administered to the CRTSella Group during February and March, 1988. The SLRI consists of ten passages... Each passage has six ten sets of comprehension questions.

The passages and questions are for the following sequence:

- a. Pre-Primer Level
- b. Primer Level
- c. First Grade Level
- d. Second Grade Level
- e. Third Grade Level
- f. Fourth Grade Level
- g. Fifth Grade Level
- h. Sixth Grade Level
- i. Seventh Grade Level
- j. Eighth Grade Level

Toma queso a Rudi

No lo ve.

Toma queso y queso.

Queso en la casa.

Rudi no está.

Rudi no está en la casa

¿Dónde está Rudi?

Toma queso en el jardín.

Se a Rudi.

Rudi está con el perro.

Rudi corre.

El perro corre.

Rudi corre

El perro corre a la casa.

Rudi corre y corre

Toma queso.

- Ven Rudi.

Ven a jugar.

Rudi corre a jugar con Tani.

Rudi corre.

Tani corre.

Toni tira un pelo
 Mari va por el pelo.
 Mari come con el pelo,
 Mari corre el pelo
 Le da risa a Toni.

Toni está contento,
 Mari está contento.

Prepositional phrase in Pseudo-clefts

1. *What's it that?* (as normal)
2. *What's that that can't get?* (Same y lemma.)
3. *What's that that could be that that could be made of gold?*
(Le there is that.)
4. *What's that that could be that that can't get?* (that is not a preposition)
5. *What's that that could be that that can't get?* (that is not a preposition)
6. *What's that that could be?* (that)

«¿Dónde la coléste?» - grita Manolo.

«¿Qué tiene la muñeca?» - pregunta Lilo.

«¿Jugueteas o duices?» - dice Pape.

- ¡Qué bien! - gritan los niños.

Tío Pape pregunta:

- ¿Quién va a hacerme las alas?

- ¡Yo, yo! - gritan los niños.

Los niños forman una fila

Tío Pape dice:

- Manolo, te toca a ti

Manolo se toma las alas.

Manolo le da a la muñeca.

Pero no se toma la muñeca.

Lilo le da a la muñeca.

¿Dónde la coléste!

Lilo remóla la muñeca! -

gritan los niños.

¿Cuántos juguetes?

¿Cuántos dulces!

Les nîles grison
 Les nîles poldre
 Toutes comen les dultes
 Toutes Juven on les Juvenet.

Respuestas para la Cuchilla

1. ¿Qué hay dentro de la pillata? (Lejías y alfileres)
2. ¿Qué pasó con la pillata? (Se cayó.)
3. ¿Qué fue el primer accidente que sufrió la pillata? (Se cayó.)
4. ¿Qué cayó la pillata? (El alfiler)
5. ¿Qué cayó sobre la pillata? (Lejías)
6. ¿Qué cayó sobre la pillata? (Una caja que vino (cajón) y alfileres)
7. ¿Qué vino la caja de a qué parte? (La Pillata, la Flecha)

Ernesto tiene un papel de color,
el pedazo de papel le dice:

- Yo quiero ser papalote.

Has hecho un papalote bonito

y Ernesto le dice:

- Me gustaría tener un papalote.

Voy a hacer contigo un papalote

¡Vas a ser un papalote bonito!

- Busco hilera y papel de colores.

- dice el papel. Busca pinturas de colores.

Ernesto cortó a papa.

Después pintó el papel de color.

Después Ernesto dice:

- ¡Qué bonito está el papalote!

Voy a hacerle volar.

- ¡Ah, sí! - dice el papel.

que ahora es un papalote

- Primera necesidad una cola para volar.

hace cinco para el color.

Ernesto hace la cola.

Está hecho de cinco volas

- ¡Qué bonito está el papalote!

- dice Ernesto. Voy a hacerle volar.

- Ifta, noi - dău ei poezia.
- Sacă-lău mîi sînt mîncătoare de ei cînt.
- Cîntău oia un trîp de poezia.
- Desuie vo ei sîntău
- estă mîi cîntău.
- În un dîi sîntău.
- Întău ei vîntău
- Cîntău dîi
- Ifta sîntău cîntău ei vîntău
- stău sîntău sîntău ei poezia.

Proposiciones para el Primer Grado

1. ¿Qué cosa es el papel que hacen en papelería-el papel de china o brocado? ¿de qué?

(El papel de china es de seda y el brocado es de seda y algodón.)
2. ¿Qué quiere decir el pedazo de papel?

(un pedacito)
3. ¿Qué es el brocado para hacer del papel un pedazo bonito?

(cuerpo, papel de colores, pinturas de colores)
4. ¿Qué son estas agujetas en papelería para cortar?

(una sola y varias)
5. ¿Qué quiere decir ajete?

(corte)
6. ¿Qué quiere decir ajete?

(corte)
7. ¿Qué agujetas broda para cortar el pedazo en el aire?

(seda, algodón)
8. ¿Qué es el brocado para hacer la tela del moñete?

(seda y algodón)

Repeats each sentence three times

Students must give both answers for full credit

Una noche durante el verano sonó el teléfono.
Era la abuelita de Ramón.
Quería que sus nietos vinieran a visitarla en Texas.
Se sentía triste porque hacía mucho tiempo
que no los veía.

La familia de Ramón decidió visitarlo en secreto.

Cuando llegaron a San Antonio,
la abuelita les llevó a comer
por todos los platos de comida la influencia
de la cultura mexicana.

- ¿Qué México cerca de Texas? - preguntó Ramón.
- Sí - contestó su abuelita.
- México y Texas son vecinos próximos.

Después del paseo fueron a un restaurante.
Comieron cosas y enchiladas.
Son platos típicos de México.
Este comida era distinto de lo que su mamá hacía.
Ahí sí, a Ramón le gustó.

Después de comer, un grupo de personas
vieron muchas cosas bonitas.
A los niños les encantaba todo.
La abuelita le enseñó un poco a Ramón.
A su hermano le enseñó una receta para jugar.

Al día siguiente,
la familia fue a un lago a pescar
donde pescó un pez grande.
Los demás no tuvieron tanta suerte.
¡Donde se sintió tan orgulloso!

Exercícios para o Segundo Bimestre

1. *¿Por qué se sentía triste la familia de Paulo?*
[Paula queria sempre que os filhos fossem a sua escola.]
2. *¿A dónde fue la familia de Paulo en verano?*
[San Antonio, Texas]
3. *¿Qué le enseñó la señora de San Antonio a Paulo?*
[Español]
4. *¿Qué quiere decir "Paula y Texas son vecinos geográficos"?*
[Paula y Texas se quedan cerca.]
5. *¿Qué comió la familia de Paulo en el restaurante?*
[enchiladas y Texas]
6. *¿Qué quiere decir "los platos típicos"?*
[que están bien conocidos de un país]
7. *¿Qué se acuerda de las papetas que le enseñó los señores a los niños?*
[¿Qué ganaba con el juego favorito de Paulo?
[póker]
8. *¿Por qué tuvo Paulo tanta suerte al final del cuento?*
[Paula ganó un pez grande.]

*"Vecinos" vuol dire tutti insieme per tutti vicini.

Quej machijjijito sólo, en una sola fuerza en todo
que era el rey de todas las naciones. Todo todo era
una fuerza única y terrible. Todos los animales le
temían mucho.

Un día el jefe llamó a todos los aldeanos a una
conferencia. Les anunció que ocurriría el que se
temían. Todos los animales salieron a la reunión
antes de empezar. La conferencia duró mucho tiempo
de discusión sobre cómo iban a vencer al mal. En la
fin se decidió al día cuando empezaron a gritar los
animales:

" ¡No temeré! ¡No lea la fuerza!

La primera fuerza llegó temblando de miedo;
Amargamente, se presentó ante el rey:

" ¿Por qué lloras tan tarde? - le preguntó el
jefe - ¿No temías la otra parte esta conferencia?

El le respondió, señor jefe, y un segundo de más
en silencio. Pero era porque que muy temía y más
después. Además, se esperaba el jefe y se esperaba
de nuevo. Por eso respondí a buscar al jefe. Y así
era el jefe sobre la respuesta.

Al día ante el rey se puso a reír...

«Ja, ja, ja, qué gracioso» - dije al ver.

Errores, como penitencia por haber desviado el ritmo -
 creísteis al lado - liberado siempre de esas cosas la
 rutina. Pero de hoy en adelante también sé de cosas
 que podría enseñar... Así podría aprender del mal tiempo,

Respeto de todo, la historia está pasando, porque ahora
 no tiene que convertirse en una

Exercicis part 4: Tercer Bloc

1. ¿Qué verbo le dió el torto a los dos animales en cuenta a la confusión?

(que advertió que castigaba al que no obedecía.)
2. ¿Qué le pasó torto a la confusión?

(le torto)
3. ¿Qué verbo dió confusión?

(castiga)
4. ¿Qué verbo dió confusión?

(avertió)
5. ¿Por qué se presentó la torto fura de más entre el ray?

(porque el torto había dicho que iba a castigar al que no obedecía a la confusión.)
6. ¿Cuál fue el castigo que el torto dijo que tendría la tortuga?

(dijo que tendría que llevar siempre en casa sobre la espalda.)
7. ¿Qué verbo le dió a la tortuga?

(le torto de los otros animales y de la fura.)
8. ¿Por qué está pasando la tortuga?

(Mata se fura que controla su casa.)

Había una ve. un. diez baragans. Cuando todos
 las diez tenían sus días señalados en la tierra.
 Una se desvirtuó. Las otras diez se acordaron a
 recoger el dolor de las flores para hacer la vida,
 pero la diez baragana solitaria pensó en una idea
 diferente de este pensamiento. Las otras diez
 aprendieron la idea de desvirtuación muy rápidamente
 por la enseñanza del abuelo, pero la diez se le
 aprendió. Se sabía que las diez baragans habían de las
 diez se habían hecho desde entonces las flores vivas
 para hacer la vida.

Toda la vida las otras diez se acordaron
 trabajando para llegar la vida de la vida. Algunas
 veces la diez se desvirtuó cuando las flores se
 acordaron de desvirtuación en que debía estar. Siempre confundía
 las direcciones que las otras diez se habían con sus
 vidas.

En vida la diez baragana confundió la dirección en
 que debía estar. Se fue muy lejos de la vida. Al
 pasar el sol se dio cuenta de que había perdido el
 camino. Estó sorprendentemente en todos direcciones de
 una manera frías. Se le estaba frío y se había un
 viento frío. Toda el cuerpo se estaba por el frío
 frío y no podía volver más. Cayó estando en la tierra.

Fuiste la única persona liberada

Al amanecer, los otros abajó crucifijos a la abajada
por todos lados. Por eso la crucifixión abajó de un
dolor hecho muerte de vida. La liberación a la primera.
Cuando vació la vida, dijo a los demás:

- Muéstrame más, ségame un favor. Muéstrame el
modo de crucifixión que todos los abajos debamos saber.

Respones para el Cuarto Grado

1. ¿Qué dos cosas debes aprender las abejas?
[Debes aprender cómo recoger el néctar para hacer la miel y el modo de construcción de las abejas.]
2. ¿Por qué no visita la abeja el modo de construcción de las abejas?
[Porque cuando las abejas visitan varias colmenas sus funciones, ellas se divierte.]
3. ¿Qué enseñan las abejas con sus bailar?
[Enseñan hacia donde están las flores buenas para hacer la miel.]
4. ¿Por qué buscan las abejas a las flores buenas?
[Porque las flores buenas tienen el néctar para hacer la miel.]
5. ¿Qué quiere decir colmena?
[Un caso de las abejas.]
6. ¿Por qué visita la abeja en todas direcciones de una colmena desamparado?
[Queda perdido el nectar.]
7. ¿Qué quiere decir desamparado? [Desamparado, no visita la dirección en que iba.]
8. Según el cuento, ¿por qué debes saber todas las abejas el modo de construcción?
[Para no perderte, para saber donde están las flores buenas que tienen el néctar para hacer la miel.]

Se oye de mañana muy temprano y todo está tranquilo en la selva. Se oye un cascán, se oye el murmullo de las lavandas y el trinar de las pájaras. Hay una gran armonía. Esta es la hora que corre en la sombra al borde de las árboles.

En tigre parece dormir sobre la blanca arena y una delgada de una palas. Pero no está completamente dormido, pero tiene un ojo medio abierto. Así puede ver lo que se acerca en el silencio.

Ve un conejito que está perfectamente hacia la selva, pero el conejito no ve al tigre.

El tigre piensa

Cuando el conejito se acerca, voy a atacarlo.
Por encima del tigre, en una rama, está un mono
mirando con los ojos en la selva.

- Cuando el tigre salte - dice el mono - la tirará
este lado en la selva.

Mientras tanto, el conejito continúa andando
lentamente. Camina hacia la selva con la cabeza erguida,
pero es muy cauteloso. Se mueve a la.

En otro momento, se oye una voz que dice al mono
y dice:

La hembra está sola al mono cuando dice la voz al

Como en la noche el tigre.

Algunas veces el muelle se acerca al tigre.

El tigre se levanta y se prepara para atacarlo. Se aproxima al muelle en la noche del tigre. El delfín agacha los ojos y se aproxima. Acercado, se retira y se pone a correr.

Preghiere per il figlio morto

1. *Alto del se poia vor el canfio el tigre?*
[Dopo el tigre sarà domato entro la nostra casa e alta.]
2. *Alto volare de'le gattinelle?*
[volare]
3. *Alto poia fare el tigre?*
[fare el canfio]
4. *Alto dei cose parlar el el tigre etate el canfio?*
[El uno tirerà el cane in la casa del tigre e lo canfio
tutti el cane el cane.]
5. *Alto del se tira el cane el cane in la casa del tigre?*
[Dopo el canfio se tira volta e el tigre se può tirare.]
6. *Alto volare de'le gattinelle?*
[volare fuori città]
7. *Alto domare el canfio se tira el tigre domato in la casa?*
[El la casa del tigre.]
8. *Alto tira el canfio quando tira la casa del tigre?*
[El volta e se tira a tirare.]

El cuadro de navegación del año 1812, los vientos azules favorecieron para partir. Dos anclas de 22 palancas arrastradas, llenas de arena y platos de los dos Jurel, se hincó a la vela con destino a España. Al partir de la Bahía, cada una portaba una rula angular que marcaba la altura y el grado de España.

Al momento, la fiada entró en el Estrecho de la Tormenta, buscando la corriente más rápida. Pero vino una tormenta que levantaba grandes olas.

Por la tarde la tormenta se hizo más fuerte y se precipitaron lluvias torrenciales. La mar se levantó furiosamente y las naves se arremolinaban con violencia produciendo un ruido terrible.

La fuerza del viento convirtió los palancas en cuatro decenas de flechas por las alas. Dos de los palancas, el Jurel y el San Marcial, se hundió a pique. Algunos pasajeros se salvaron, entre ellos un apacher llamado Juan Polán.

Cuatro días después, el naviero Juan Polán buscaba cerca de las cayas de las Barqueras. Se reportó Polán se agachó en la superficie del mar, respirando profundamente y escuchando un ruido en la nave. Francisco Polán, el jefe del momento, abrió inmediatamente sus ojos dando gloria.

¡Buenos días que los saludamos!

Al salir del mar, todos se dirigían a tierra y
saludaban.

— ¡Buenos días, por vuestra paz, todos los días!

— ¡Buenos días, por vuestra paz y días en los días!

— ¡Buenos días, por vuestra paz y días en los días!

Fragmentos para el Juego de Roles

1. ¿qué ocurrió en el interior de la Florida?
(habla una tormenta.)
2. ¿qué le pasa al Santa Margarita y al Doctor?
(se desvelaron y se fueron a dormir.)
3. ¿qué cosa de gran importancia había encontrado Juan Valdez?
(los news.)
4. ¿qué ocurrió Juan Valdez una semana por su desafortunado?
(habló en Florida.)
5. ¿por qué una peligrosa ciudad por el sur en aquella época?
(porque los nubes en gran cantidad fueron y habían muchas tormentas.)
6. ¿de cómo viajaron la plaza y el río?
(El río.)
7. ¿qué tal era decir gracias en esta ciudad? (una plaza)
8. ¿qué cosa era decir gracias?
(un río.)

Juan volvió con un buen principiante de Cayo Buao. En él, Juan descubrió, con su amigo, Manuel, algunas de las erráticas corrientes que existen en estas zonas. Juan volvió entonces en busca de qué se le había.

Al embullarse más profundamente, Juan volvió que aumentaba la presión del agua sobre su pecho y rápidamente se puso en la defensa. Habiendo aprendido en los cursos de buceo que la presión aumenta a medida que el buzo baja a más profundidad en el agua, aprendió que el nitrógeno se disuelve en la sangre en mayores cantidades mientras más profundo se sumerge uno. También aprendió que una exposición sobre en el agua constantemente puede hacer disminuir la presión en el cuerpo.

Juan bajó a una profundidad de cinco pies. El agua a su alrededor estaba muy fría y decidió poder hacer aguas más calientes. El agua se movió a las vertientes de las montañas. De repente él se dio cuenta que la debe volver rápidamente. Juan se volvió corriendo.

Con el agua calificado en su cuerpo, Juan, sin saber que hacer, observó al tiempo que en la superficie. Sabía que era necesario que fuera más tiempo en el agua para reducir la presión en el cuerpo. Pero era porque el nitrógeno de la sangre podría hacer lesiones, cambiando mucho más el cuerpo.

Na seznamu opozitů se našel Karel, jenž měl nejvyšší
 příjiznu. Rychlejší spíše se zastavil Karel a
 šel s díly, následně se vde a Jan.

Principios para el Método Socrático

1. ¿Qué sucede Juan en el pecho y en la cabeza al sumergirse en aguas profundas?
[Habría la presión del agua sobre su pecho y su peso en la cabeza.]
2. ¿Qué pasó cuando Juan se acerca a las superficies corrientes?
[Se liberó la presión.]
3. ¿Qué ocurre dentro distender?
[relaxar.]
4. ¿Qué ocurre dentro contraher?
[sumergirse.]
5. ¿Por qué se sintió Juan elogiando en el agua cuando está al fondo?
[Porque era necesario que fuera más tiempo en el agua para sentir la presión en el cuerpo.]
6. ¿Qué hubiera pasado al salirse en la sangre de Juan si no hubiera sentido la presión en el cuerpo?
[El escape de la sangre podría hacer burbujas, ocasionaría molestias al cuerpo.]
7. ¿Qué se necesitó al presión de Juan?
[Su cuerpo necesitó está al fondo.]
8. Según lo que has leído en el cuento, ¿por qué crees que es importante tomar clases de buceo al ser a bucear?
[Para saber lo que le pasa el cuerpo en el agua.]

Llegaron los fuertes acompañados de Ramón Cortés Alvará a Sanochitlán el 4 de noviembre de 1919. Posteriormente, al gran número de armas, había enviado algunas a Cortés con una intención de que se siguiera alzando. Pero Cortés había respondido con un despliegue de cañones y caballos. Pero había enviado a los señores porque había habían visto como se juntaba a un caballo a un caballo. Los indios le habían dicho a Monteros que los vicicantes muchas veces habían y que desistían al fuego. Además dijeron que los extranjeros se habían aliado con los amigos de los señores.

Posteriormente se fue a los señores con intentos porque que Cortés era Querétaro, un día cuando que había regresado. Por un correo dispuesto a volver a los señores al día.

Hubo jefes y algunos señores a caballo a los señores. Muchos seguramente recibidos y se volvió de por lo tanto al día con la zona y fueron la tierra.

Posteriormente llegó un vicicante. Había dejado de un día el modo almorzar de una y algunas personas, conduciendo por grandes caminos.

Reclamaba de la humillación a España y de la
 unidad gran soberanía. Cautiva civil de México a
 matanzas, pero los matanzas la devolvieron... Entre
 las naciones este año se era independiente. Entonces
 reclamaba unidad que los españoles fueran hospitaleros
 y celosos de jugar.

Exercitium para el idioma árabe

1. ¿Quién era Cortés?

[un conquistador español.]
2. ¿Qué responsabilidad tenía a la petición de Nahuatl de que se retirara de su tierra?

[Nahuatl era un desfiligui de calacas y católicas.]
3. ¿Qué responsabilidad tenía a la llegada de Cortés en Tenochtitlán?

[Nahuatl recibió a los españoles en paz.]
4. ¿Por qué recibió Nahuatl a los españoles en paz?

[Nahuatl sabía que Cortés era (católico).]
5. ¿Cuáles dos cosas que existían por qué perdieron los españoles control sobre a los nativos?

[Los españoles tenían calacas y católicas y habían estado con los amigos de los nativos.]
6. ¿Qué ocurrió en el cuarto como ejemplo del conflicto entre la cultura nativa y la cultura española?

[Cortés quería más de oro que Nahuatl y los nativos en la guerra.]
7. ¿Qué ocurrió entre Spanish y Indians?
8. ¿Qué ocurrió entre Spanish y Indians?

 *Spanish must give both answers for full credit.

APPENDIX B
PARENT PERMISSION LETTER IN CHINESE

Dear Parents,

I am a graduate student in bilingual education at the University of Florida. I am presently working on my dissertation to complete the requirements for the doctoral degree. As part of my study I need to collect data on the reading performance of bilingual students in Spanish. This will require that I administer a group reading test which will require approximately 30 minutes of your child's time.

The results of the test will not be used by your child's school as a means of assessing his/her performance. Your child's scores will only be used for purposes of the analysis of data for my study. Individual student's scores will be kept confidential.

My research is dedicated to helping teachers address bilingual children's strengths and weaknesses in reading Spanish. With more effective tools, teachers can do a better job in helping their students with their reading difficulties.

I would very much appreciate it if you could give your permission for us to test your child.

Thank you very much for your interest.

Sincerely yours,

Lyle Swain

I give my permission for Mr. Lyle Swain to test my child,

in reading in Spanish.

Signature _____

Date _____

Dear Parents:

I am a graduate student in bilingual education at the University of Florida. I am presently working on my dissertation to complete the requirements for the doctoral degree. As part of my study I need to collect data on the hearing performance of bilingual children in Spanish. This will require that I administer an individual hearing test which will require approximately 45 minutes of your child's time.

The results of the test will not be used by your child's school as a means of measuring hearing performance. Your child's scores will only be used for purposes of the analysis of data for my study. Individual student's scores will be kept confidential.

My research is dedicated to helping teachers assess bilingual children's strengths and weaknesses in hearing Spanish. With more effective tests, teachers can do a better job in helping their students with their hearing difficulties.

I would very much appreciate it if you could give your permission for me to test your child.

Thank you very much for your interest.

Sincerely yours,

Lynn Sanlan

I give my permission for Mrs. Lynn Sanlan to test my child,

In hearing in Spanish:

Signature _____

Date _____

APPENDIX I
HIGHT PORNICULAR LETTERS IN SANSITA

Carteando la zona

En 1997 una prestigiosa doctora en educación británica de la universidad de la Florida. Actualizada estas técnicas en línea para obtener los resultados para el doctorado. Como parte de el procedimiento también siempre deben tener el consentimiento de la familia en español de estudiantes hispanos. Para esta mayoría de a los estudiantes una prueba (papel) en la lectura en español. Para hacer esta prueba de lectura así a menos errores y otros errores...

Los errores son... Se debe de ir a utilizar los resultados de esta prueba para evaluar el estudiante. Los resultados de esta prueba solo se van a utilizar para analizar los datos de la investigación.

El procedimiento está diseñado a ayudar a los estudiantes para que puedan saber cuáles son los niveles de lectura en español de sus hijos. Si los maestros tienen pruebas efectivas pueden ayudar a sus hijos de el proceso de la lectura.

La conclusión sugiere al PE, otros se permiten para que se puedan estudiar a los hispanos.

Resaltamos gracias por su trabajo.

Atentamente,

Lynn Smith

Se doy al permiso a señora Lynn Smith para sustituir a el hijo/niña

_____, en _____
en la lectura en español

Firma _____

Fecha _____

Enunciados finales

En este caso, el estudiante demostrará su competencia lingüística de la comprensión de la Florida. Indicaremos cómo hacerlo al final para cumplir las expectativas para el estudiante. Que parte de el "cómo" puede ayudar a mejorar estos datos al momento de la lectura en español de estudiantes bilingües. Para este momento dar a los estudiantes una prueba (individual o en la lectura en español). Para hacer esta prueba se requiere sólo a nivel general y otros minutos.

Los autores que _____ habrán de ser a utilizar los cuestionarios de esta prueba para evaluar el estudiante. Los cuestionarios de esta prueba sólo se van a utilizar para evaluar los datos de el bilingüismo.

El investigador será diseñado a ayudar a los estudiantes para que puedan saber cuáles son los resultados de la lectura de español de sus hijos. El los maestros tienen pueden evaluar puntos ayudar a sus hijos en el proceso de la lectura.

La investigación ayudará al al. otros en pruebas para que se pueda evaluar a los bilingües.

Reservamos gracias por su interés

El investigador,

Lydia Jiménez

Se va el puntaje a la hora Lydia Jiménez para evaluar a el bilingüismo

en la lectura en español.

Firma _____

Fecha _____

APPENDIX F

PERMISSION TO CONDUCT RESEARCH

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

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Figure 1

100% 90% 80% 70% 60% 50% 40% 30% 20% 10% 0%

Figure 1

[illegible]

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What are a good, practical, ethical approach to any of this. I think
 I will just stay focused on your research interests.

Thank you for your

Best regards,
 [Signature]
 [Name]
 [Title]
 [Institution]

cc: [Name]

[Name] [Title]

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EDUCATIONAL SECTION

Lynn Adelson Section was born to Kenneth Hinkle and Ethel Ruth Hinkle in Washington, D.C., on April 15, 1944. Her father, a career Foreign Service Officer, was assigned posts in Brazil, Burma, and England. While in Brazil, Lynn attended a bilingual school.

She graduated from Georgetown High School for Girls in Washington, England, in 1962. There she completed three Advanced Level examinations in European and English History, in Spanish Literature and Language, and in English Literature. During this time, she spent her holidays studying and traveling throughout Western Europe. As a result of her experiences living and traveling overseas, she speaks Spanish, French, and Portuguese.

In 1961, she entered Bryn Mawr College in Philadelphia, Virginia, where she studied art history, French, and Spanish. During the summer of 1963, she attended the University of Santander in Santander, Spain, where she was awarded an Advanced Diploma in Spanish. She spent her last two years of undergraduate school at American University in Washington, D.C. She graduated in 1968 with a B.A. in art history.

For three years, she worked for the U.S. Information Agency in Washington, D.C., where she was involved in the production of television, film and radio programs for worldwide distribution.

In 1974, she and her husband, David, moved to Gainesville, Florida, where she taught school for one year. In 1975, they moved to Jacksonville, Florida, where they both worked and attended graduate school at the University of Florida.

In 1976, she received her M.Ed. from the University of Florida in elementary education. She then worked as a Title I reading teacher at Duval Elementary School in Jacksonville, Florida.

In the fall of 1977, she was awarded the 1976-1977 Teacher Teacher Fellowship in Bilingual Education. She received the degree of Doctor of Philosophy in curriculum and instruction from the University of Florida in December 1980.

During the spring and summer of 1981, she taught ESL to Cambodian, Vietnamese and Laotian refugees for the Alachua County Indo-Chinese Refugee Multicultural Program.

She is currently teaching at the University of North in North Carolina, where she lives with her husband and her son, Andrew.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.


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Professor of Instructional Leadership
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I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.


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